

# MEDICAL BITS FROM YOUR DOCTOR

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*"Sadness flies away on the wings of Time".*

*Jean de La Fontaine*

*"Sadness is but a wall between two gardens".*

*Kahlil Gibran*

## 1 – Medical News

Monkeypox, Polio, Covid-19 Update

## 2 – YOUR HEALTH DEPRESSION – Part I

## 3 – Debunking Myths

Questions & Answers and COVID Treatments

*"To be happy, cease to worry about things beyond the power of your will".*

*Epictetus*

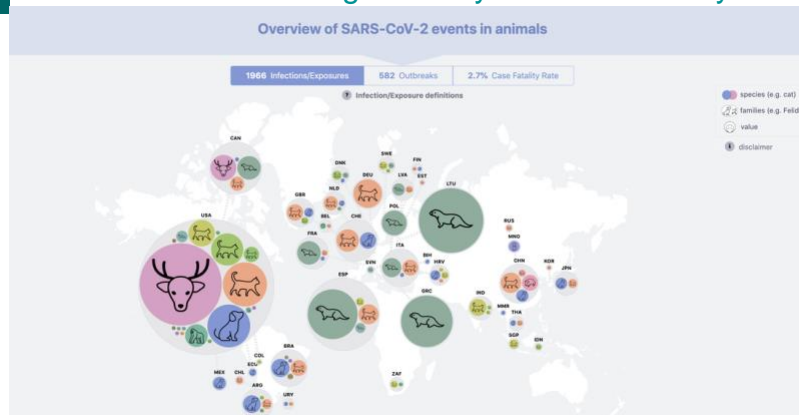
## “Endemic” COVID and emerging infections

Your “antennas”, have likely been tuning in to reports on Poliomyelitis and Monkeypox (more later). And after more than 30 months of SARS CoV2 we all realize that COVID has become “endemic” and needs to be incorporated into our daily lives. More infectious variants (more effective at sneaking past our natural and vaccine-induced defenses) such as Omicron BA.4 and BA.5, have taken over the nation, but fortunately, the number of cases requiring hospitalizations have not increased and the healthcare system continues to hum along without worrisome spikes in cases or severity.

Most people have been vaccinated or have natural immunity which have prompted the CDC to issue [new recommendations](#):

- If you are healthy and tested positive (regardless of vaccination status) you should isolate for 5 days only.
- Once isolation completed, wear a high-quality mask through Day 10.
- If you test negative on two rapid antigen (Ag) tests, stop wearing mask.
- Avoid visiting older and immunocompromised hosts for 10 days.

Pandemics tend to fade away and become endemic in places with low vaccination rates with intermittent flare-ups. We now realize that even in places with high vaccination rates and high levels of immunity, periodic increases in viral activity and infection are becoming the norm. This is likely due to the highly infectious nature of these respiratory viruses, frequent mutations and waning antibody titers induced by vaccination and infection.



We also reviewed how the presence of very large [animal reservoir](#) (as more than 500 species of mammals have been infected). A group of researchers from the University of Vienna in collaboration with

the Wildlife Conservation Society recently published the first [COVID data tracking dashboard](#) for cases in animals, which provides an interactive visualization of what happened to our companions in our transient journey through our tiny corner of the Universe.

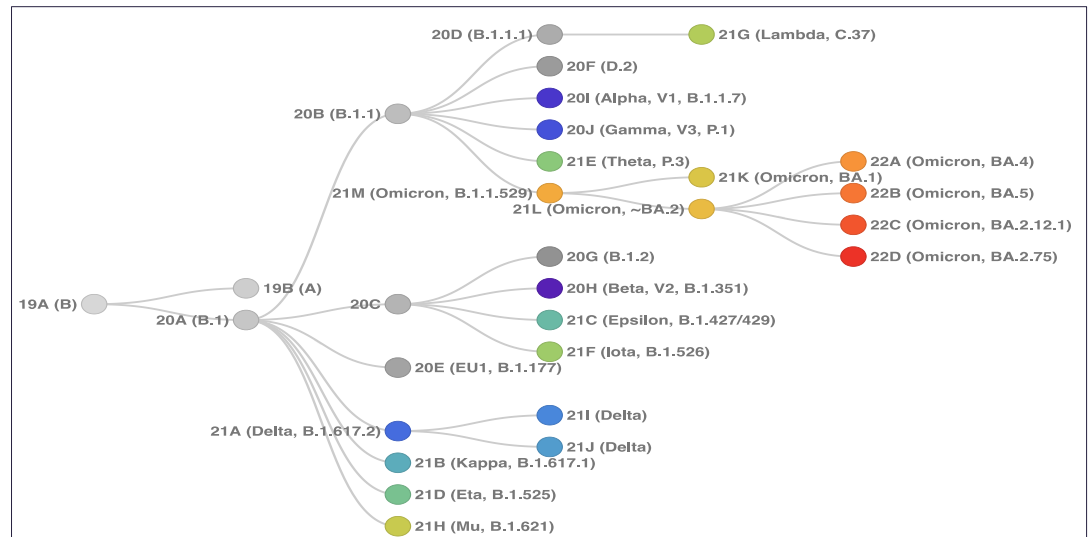
Humans have likely infected animals through contaminated waste water, but now those animal reservoirs may continue to recirculate the virus, leading to occasional infections into the distant future, even more so with highly infectious Omicron variants, and another reason why a “zero” Covid policy is complete nonsense and can only be dreamed by autocratic governments.

This reminds us that no information published by dictatorships can be trusted. [Recent analysis](#) of Russia’s Sputnik V Covid Vaccine completed at the University of New South Wales, in Sydney, demonstrated that the high vaccine efficacy reported is unlikely to be real, as mathematical analysis led them to conclude the numbers were “manufactured”. This is not surprising. Dictators and autocrats, just like our former president are likely to distort the truth to make reality fit their “needs”.

## COVID IS NOT GOING AWAY!

More than 8 months after the Omicron variant was identified in Zimbabwe and South Africa, two “sons or daughters” [offshoots of Omicron](#) are responsible for most current transmissions. The BA.4 and BA.5 Omicron variants are more transmissible and may “dodge” some of the protections provided by prior infection and vaccination.

A new Omicron subvariant called BA.2.75 nicknamed “Centaurus” is rising fast in India, but it is not driving up hospitalizations or death rates. It has been detected in more than 20 countries worldwide and continues to be monitored.

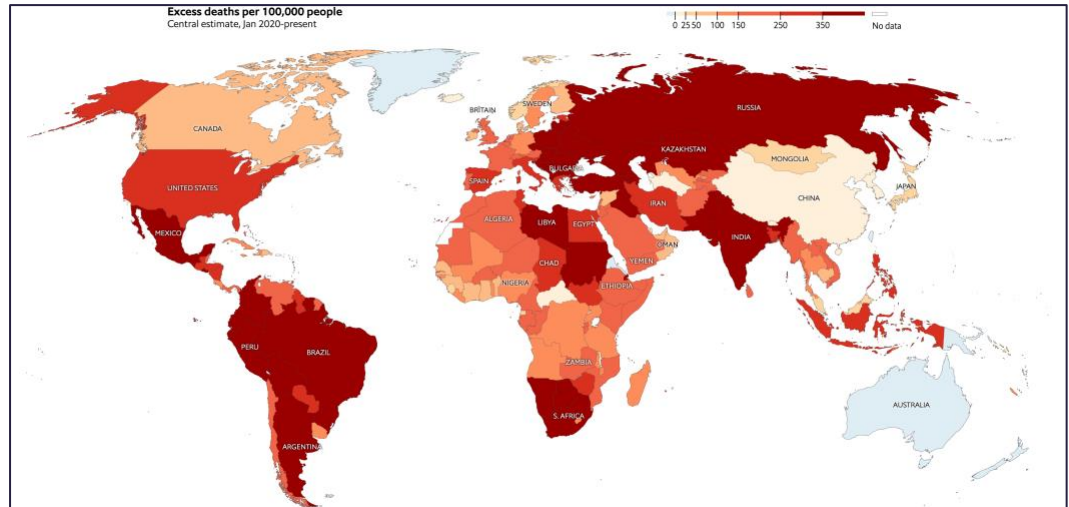


These new variants are better able to escape immunity, thus leading to waves of infection as antibody neutralization is not as effective. The periodic rise of new coronavirus variants could lead to intermittent waves of infection and continue to drive an “endemic” disease such as Influenza.

We should emphasize that despite the higher infection rate, the high levels of natural immunity and vaccination rates will continue to provide protection against troublesome, severe disease. Best to be mentally and physically prepared for this new companion that will continue to cause “background noise”.

# COVID-19 Mortality

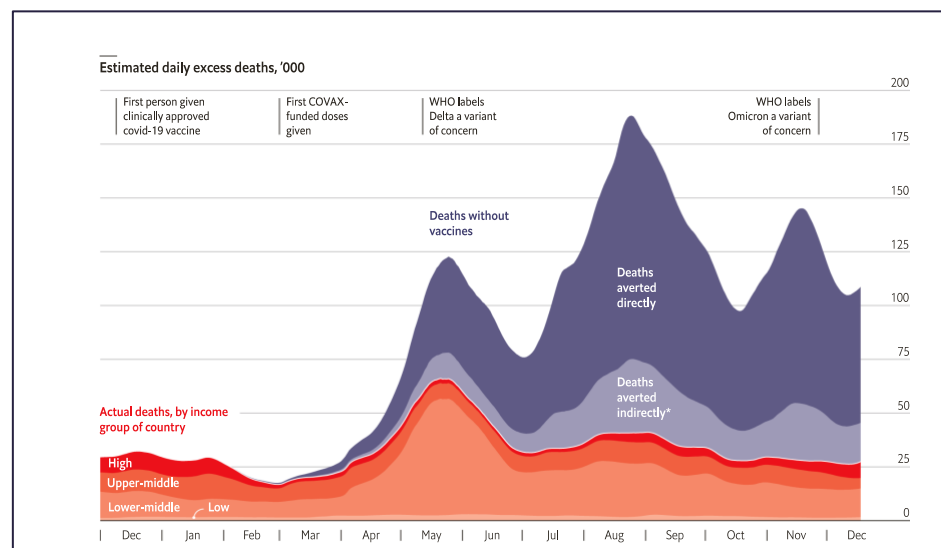
The official Covid-19 world-wide deaths have reached 7 million (> 1 million in the U.S) but the [excess-mortality data](#) may be closer to 28 million.



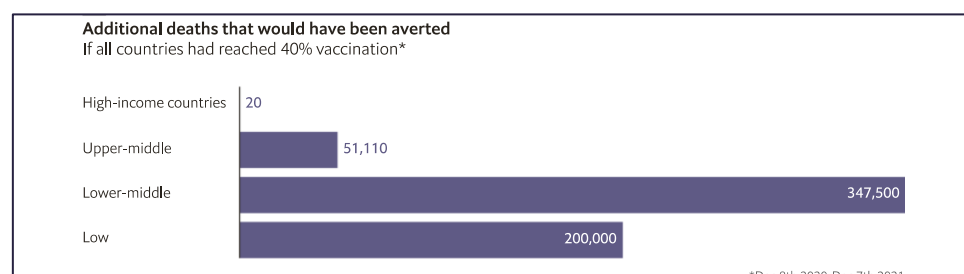
The discrepancy between “official” and “real” mortality data is due to lack of testing and wrong tallies, but excess mortality is more accurate.

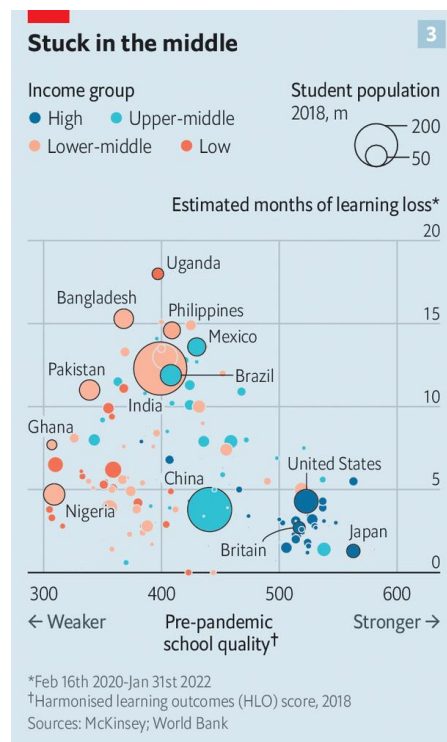
Despite the big initial failures at containment, the developed world and science delivered effective and safe vaccines and several treatments to mitigate progressive disease and lethal outcomes for most humans.

A [recent study](#) calculated that vaccinations cut the death toll by 63% (1<sup>st</sup> year).



The study also demonstrated that despite the fact that rich nations inoculated 2.5 as many doses per person as did the poor ones covered by [COVAX](#) (International consortium for vaccine distribution), the number of saved lives were about the same, as many of the poorer nations have fewer vulnerable, older patients.





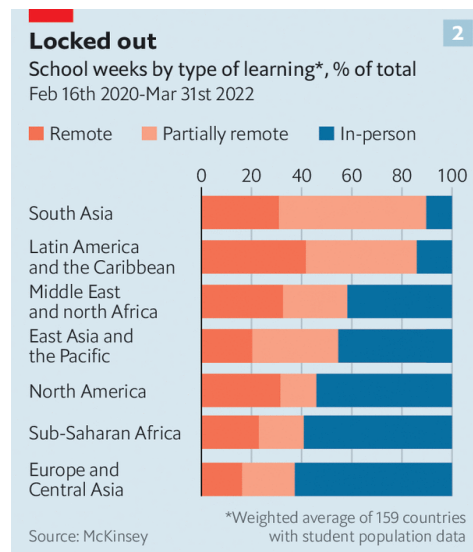
The Economist

Let's remember that the consequences of isolation and school closures are severe and unfortunately, damage to school children and beyond has been worse than anyone anticipated.

According to the World Bank, prior to the pandemic (sadly) 57% of 10-year-olds in low and middle-income nations could not read a simple story. Now, it is estimated to be over 70%.

Latin America and South East Asia have probably been the worst affected regions. And as you realize, all levels of education suffered.

The World Bank estimates the disruptions could cost children more than \$20 trn in earnings over their lifetimes (and 17% in global GDP output).



The Economist

Reports from the Brookings Institution, The World Bank Group and McKinsey indicate that no nations were spared.

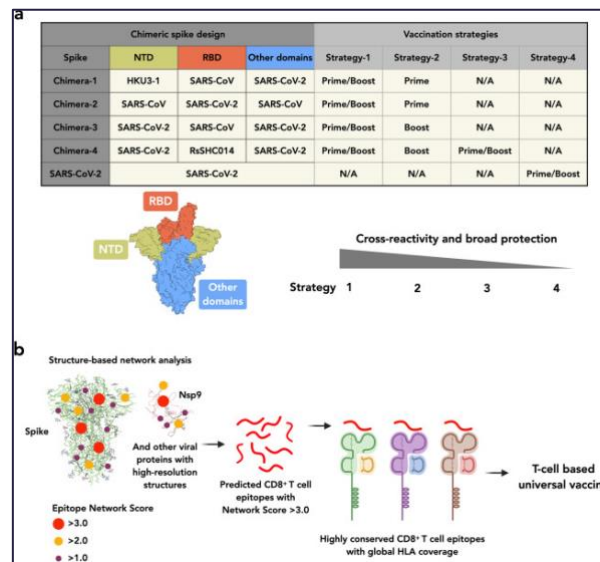
Globally, it is estimated that schoolchildren are 8 months behind their learning schedule with worse outcomes particularly in middle-income nations, which are home to 75% of all school-age children.

The lag in many of those countries is 9-15 months and one major concern is that such delay dramatically increases drop-out rates, with permanent consequences.

## VACCINES AND “BROAD SPECTRUM SHOTS”

As of late July 2022, almost 13 billion Covid-19 Vaccine doses been administered worldwide and the WHO estimates that 70% of the world population has now been vaccinated.

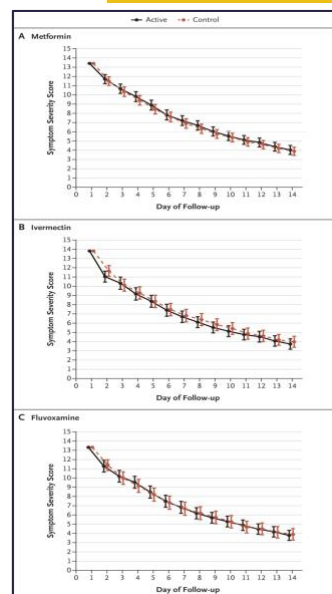
A few months ago, we briefly discussed the international effort to develop a “Universal Coronavirus” vaccine or a “broad-spectrum” vaccine that may provide wide protection against several coronaviruses, including yet-unidentified strains. The huge diversity of bat coronaviruses, their proximity to humans and the high mutability of the spike gene essential for immune recognition, have prompted a large collaborative international effort to develop “pan-coronaviruses shots.



An ongoing cloud computing infrastructure called [Serratus](#) is enabling and accelerating the analysis of millions of novel RNA viruses which can point to the origin and evolution of new dangerous viruses and improve our [surveillance for mitigation of future pandemics](#). These new broad vaccines in development display different viral antigens in diverse manners, such as Ferritin and Mosaic Nanoparticles and Chimeric Spikes, [among others](#).

## COVID-19 DATA

- [HERE: new cases, hospitalizations and deaths](#).
- [HERE](#), you can find all the COVID-19 STATS and [more](#).
- [CDC study: Transmissibility of Omicron variant](#)
  - Omicron transmission occurred in 67.8% of households.
  - The attack rate among contacts of index patients varied:
    - Vaccinated with booster within 5 months: 42.7%
    - Vaccinated without booster: 43.6%
    - Unvaccinated index patients: 63.9%
- [Maternal Vaccination during pregnancy protects infants](#) against hospitalization for several months after birth.
  - Of 176 infants admitted, 148 (84%) born to unvaccinated mothers.
  - Almost 90% of the infants requiring ICU care had unvaccinated mothers.
  - Vaccination protection greater in the 3<sup>rd</sup> trimester. SAFE and EFFECTIVE.
  - Sadly, irrational [anti-vaxxers](#) misappropriated and linked few reports of miscarriages. FALSE.
- [Metformin, Ivermectin and fluvoxamine](#) were evaluated as early



treatments to prevent progression of SARS-CoV-2 infection and enrolled within 3 days of confirmed infection and within 7 days of symptom onset. All were overweight or obese: **INEFFECTIVE**. Time to stop quackery and use of potentially dangerous ineffective treatments.

## • Compounds from [Propolis and Honey](#) improve symptoms

○ Compounds from propolis and honey appear to interact with target proteins of SARS-CoV-2, interfering with viral entry and RNA replication improving symptoms and decreasing viral clearance time. 15 studies with small sample sizes.



- **In Covid-19, IV vitamin C does not improve outcomes.**
  - Analysis of 7 studies did not demonstrate benefit.
- **Does infection with Omicron protect against other strains?**
  - This study published by the researchers that identified Omicron from South Africa, suggests that the degree of protection may be related to the vaccination status prior to infection.
  - Vaccinated patients generated 3x anti-Omicron neutralizing antibodies,
  - Priming the immune system with the original Spike protein antigen augments immunity to a new variant, even one as diverse as Omicron.
  - Vaccinated patients generated a volume of neutralizing antibodies against other variants 15 to 150-fold higher than the unvaccinated.
  - Lends additional support to why the vaccinated patients fare much better than the unvaccinated.

## COVID-19 Variants and Mutants

Since the first SARS-CoV2 was sequenced in Wuhan on January 10<sup>th</sup>, 2020, more than 6.6 million SARS-CoV2 genomes have been added to the GISAID database and arranged into “clades” – groupings with a distinct common ancestor.

As Dr. Anthony Fauci and his colleagues from NIH-NIAID explain, over the past two decades humanity encountered four coronavirus epidemics – SARS 2002-2003 – MERS and Covid-19. Due to loss of habitat and closer proximity to other mammals and bats in particular, additional coronaviruses are likely to emerge. The scientific community is working on characterizing the global coronavirus universe to use this information in the design of “universal” coronavirus vaccines.

There are several open-source databases tracking SARS-CoV-2 genomic sequences, but the largest and most popular is GISAID. It was originally conceived in 2006 as a “bank” of genomic data from flu viruses, but the Pandemic has expanded its mission to promote the rapid sharing of data from all influenza and coronaviruses to help researchers understand how viruses evolve and spread during epidemics and pandemics. Scientists are able to upload the genomic sequence of the viral strain present in their communities.

Their hard work has led to the sharing of more than 8 million coronavirus genome sequences from 183 nations, allowing researchers to track the development and movement of new variants across the planet. Nextstrain, is another open-source consortium that follows numerous infectious diseases and updated several times weekly, tracking the global spread and flow of variants.

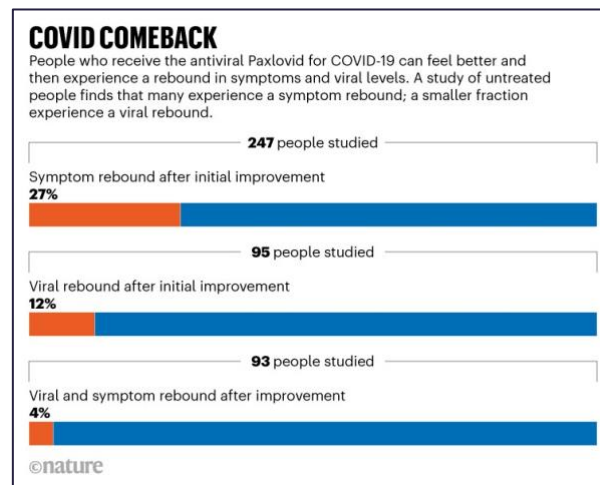
The frequently updated Coronavirus Vaccine Tracker from the NYT is an excellent resource. Another from Nature. Also: Vaccine information.

## COVID-19 Q & A: Please, refer to [prior Bits](#).

- **Should we get a 3<sup>rd</sup> booster – 5<sup>th</sup> shot this fall? YES.**

- Since protection against disease continues to decrease after 4-6 months (mucosal protection is mediated by virus-specific neutralizing antibodies), best to obtain another shot.
- This week, the UK medicines regulator approved the first “bivalent” COVID-19 booster vaccine, which targets the two most important variants (original Alfa virus from 2020 and Omicron).
- While there is controversy surrounding the approval of the “5<sup>th</sup>” shot, as the bivalent vaccine’s immunogenicity is being tested in mice, we already know that both mRNA vaccines are safe, effective and highly immunogenic. I think that waiting for additional human trials will delay deployment for minimal gains and therefore best to go forward with the bivalent vaccine this fall, to vaccinate everyone against Influenza and Covid at the same time.
- [4 vaccine-doses](#) improved short term protection compared to 3 doses and decreases symptomatic disease, severe illness and hospitalizations.
- A recent [study from Qatar](#) in 2.3 million people confirms findings. Therefore 5 shots against these more infectious variants is likely to be more effective.
- Mild disease or asymptomatic infection should not be considered “breakthrough” infection after vaccination. They should be expected.
- **Particularly if > 65 yo or with comorbid conditions, best to plan on a 5<sup>th</sup> shot later this fall, likely early September – October.**
- Risk/Benefit marginal for 15 to 30-year-old men (higher risk of pericarditis and myocarditis after vaccination).

- **What is Paxlovid rebound?**



[Numerous reports](#) indicate that viral levels resurge in more than 10% of untreated individuals, but it is even more common after antiviral treatment.

- Unlikely to be drug resistance.
- 5-Day course may be too short in some individuals.
- If rebound symptoms, extension of treatment warranted.

- **For how long do I remain infectious after acute infection?**

- Usually no more than 5 days after symptoms onset and 3 days after resolution of fever, even if Rapid test or PCR are likely to remain positive, but infectivity varies.
- Use [precautions](#) for 10 days after acute infection.

- **I am fully vaccinated and now infected again. What to do?**

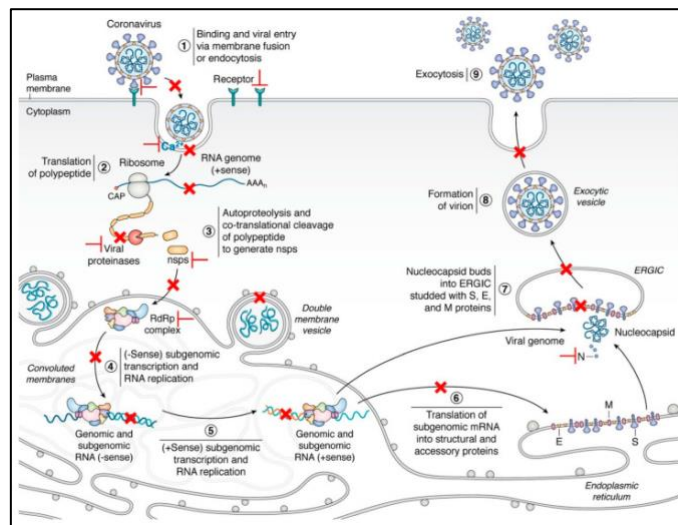
- If mild symptoms, normal oxygenation and fever below 102, home remedies and symptomatic treatment should suffice.

- If high fevers and severe symptoms, or at high risk of complications, ask your doctor for [Paxlovid](#) treatment. Same excellent results if initiated within 5 days of symptoms onset.
- A longer course may be necessary in some situations to avoid “Paxlovid rebound”.
- **Is infection inevitable?**
  - During the course of a pandemic, infection is almost inevitable, unless you take draconian measures that will negatively impact your quality of life.
- **Is the risk of complications reduced with repeat infection?**
  - Yes. Vaccines, boosters and natural infection augment our immunity and reduce the odds of developing complications and “long-covid”.
- **Will the Pandemic come to an end soon?**
  - As mentioned above, there is no “end of a pandemic”. But we will reach a point (arguably, almost there in the Western world) when the virus will no longer disrupts our daily lives, hospitals are not challenged by the pandemic and those vulnerable can access effective treatments.

## COVID-19 TREATMENTS

### Targets for treatment:

- [Paxlovid](#) (Nirmatrelvir+Ritonavir) prevents admissions / deaths
  - Oral combination antiviral, blocks a protease (3CL) enzyme essential for viral replication.



- Effective against all variants
- Symptomatic, unvaccinated and high-risk Covid + adults were given Paxlovid or placebo twice daily x 5 days within 3 days of symptom onset.
- Paxlovid: 5/697 hospitalized (0.72%) and 0 died.
- Placebo: 44/682 hospitalized (6.45%) and 9 died (1.32%).
- Similar if initiated first 5 days.
- 10-fold decrease in viral load at day 5 relative to placebo

and therefore anticipated to decrease infectivity.

- A longer course may be necessary to prevent “[Paxlovid Rebound](#)”.
- Most common side-effect: transient change in taste perception 5%.
- Safe. Check [here](#) for common drug-drug interaction.
- And check [here to locate pharmacies](#) with stock
- [Molnupiravir](#)
  - In a [trial published in December](#), 800 mg administered twice daily for 5 days and initiated within 5 days of symptoms onset, decreased the risk of hospitalization or death from 14 to 7% on interim analysis but from a more modest 9.7% to a 6.8% with an absolute difference of 3% on final analysis.



## COVID-19 Monoclonal Antibodies

Monoclonal antibodies are expensive engineered human monoclonal antibodies specific against the Spike protein of SARS-CoV2 and have been investigated to prevent progression of mild-moderate Covid-19 infection in ambulatory, **UNVACCINATED patients (post-exposure prophylaxis) and for pre-exposure prevention in patients with moderate to severe immunocompromise, unable to mount a good response to vaccination.** Since Paxlovid is now available, the use of these agents is anticipated to decrease.

There are many formulations and some trials have shown lower viral loads, and modestly lower rates of progression of disease.

- **Bebtelovimab** retains efficacy against Omicron and variants. 175 mg IV in > 12 yrs-old only when Paxlovid not available in high-risk individuals.
- **Bamlanivimab** is ineffective against the Delta or Omicron variants.
- **Bamlanivimab – Etesevimab** are not effective against new variants.
- **Casirivimab-Imdevimab** combination retained efficacy against Delta but not against Omicron.
- **Sotrovimab**, which neutralizes most sarbecoviruses is effective against Omicron and the 500 mg may be administered as an infusion or intramuscular but Bebtelovimab recommended as first line.
- **Tixagevimab / Cilgavimab (Evusheld)** is effective for pre-exposure prophylaxis in moderately to severely immunocompromised hosts unable to mount a good response to vaccination and not a substitute to vaccination.
  - 300/300 mg IM injections every 3-6 months.

## COVID-19 - PROVEN THERAPY

NIH has a wonderful resource summarizing the evidence in their [NIH Covid-Treatment Guidelines](#) (now > 400 pages). Another review: [Open Critical Care](#). In summary:

- Use **Dexamethasone** at 6 mg daily for 10 days after diagnosis of COVID-related pneumonitis / pneumonia
- **Remdesivir**: marginal benefit. Early oral formulation may be beneficial.
- In hospitalized patients, use IV **Tocilizumab**. If not available, **Baricitinib**.
- **Ivermectin**. NO EVIDENCE. Do not use. Now we know that it may be beneficial in lower- and middle-income nations where intestinal parasites are more prevalent. Effective against lice, scabies, filariasis and intestinal parasites!
- **Convalescent plasma** – Ab from previously infected patients: No benefit.
- **Plasma exchange** – plasmapheresis. No benefit, costly and invasive.
- **Colchicine**. Insufficient evidence. Do not use
- **Interleukin 1 – 6 inhibitors**. Insufficient evidence. Do not use.
- **Janus Kinase Inhibitor Baricitinib**. Possibly beneficial in the right setting.
- **Anticoagulants**. Only in prophylactic doses.
- **Supplements**: Vitamin D, C, Zinc. No benefit.
- **High-Flow O2** in severe Covid-19 reduces intubation and time to recovery.

# YOUR HEALTH:

## Pox Viruses

[Poxviruses](#), have been known for centuries and affect many species of animals and insects. The dreaded Smallpox, may have killed [pharaoh Ramses V](#) circa 1150 BCE and jumped from rodents to humans more than 20,000 years ago. It was carried to Europe in the 8<sup>th</sup> century and then to the [Americas](#) in the 16<sup>th</sup> century and likely the reason Hernan Cortez was so effective in his submission and destruction of the [Aztecs](#), as it caused the demise of more than 3 million people within the first two years. As we have learned, novel diseases can be devastating to immunologically naïve populations. Almost two centuries after [Edward Jenner](#) used the less potent cowpox to

effectively vaccinate against the deadly smallpox (mortality of 20-30%) an international effort led to eradication in 1977. Viral samples remain only at the CDC and at the Institute of Viral Preparations in Moscow.

[Poxviruses](#), other than smallpox (variola) cause self-limited disease in normal hosts and there are 83 species in the family that may cause a pock or pox (skin blisters that may become infected, later scab and frequently scar over 2-3 weeks).

Many were named after the animal from which they were originally isolated, but the main reservoirs are

Genus and Species (Disease)	Primary Reservoir	Geographic Region	Mode of Transmission	Protection Provided by Vaccinia Vaccination
<b>Orthopoxvirus</b>				
Cowpox	Rodents	Europe, Africa, central and northern Asia	Direct contact	Yes
Monkeypox	Rodents	Central and West Africa	Direct contact, respiratory droplets	Yes
Vaccinia	Unknown*		Direct contact	
Variola (smallpox)†	Humans	U.S., Russia	Direct contact, respiratory droplets	Yes
<b>Yatapoxvirus</b>				
Tanapox	Nonhuman primates	Kenya, Zaire	Direct contact	No
Yabapox	Nonhuman primates	Central Africa	Direct contact	No
<b>Parapoxvirus</b>				
Pseudocowpox (milker's nodules and paravaccinia)	Ungulates	Worldwide	Direct contact	No
Bovine papular stomatitis	Ungulates	U.S., Canada, Africa, Australia, New Zealand, Great Britain, Europe	Direct contact	No
Orf	Ungulates	North America, Europe, New Zealand	Direct contact	No
Sealpox	Seals	North Sea, Pacific Ocean, Atlantic Ocean	Direct contact	No
<b>Molluscipoxvirus</b>				
Molluscipox (molluscum contagiosum)	Humans	Worldwide	Direct contact	No

\* Genetic analysis of vaccinia reveals it to be different from cowpox; its origin is unknown, but it may be an extinct horse-pox virus.

† Smallpox was declared eradicated in 1980.

rodents. As usual, the rising popularity of exotic pets and ubiquitous international travel multiply the risk zoonotic (animal borne) diseases infecting humans.

## Monkeypox

[Monkeypox](#) has been endemic in West and Central Africa for decades. It spreads by close or intimate skin-skin contact. Rarely touching objects, fabrics or respiratory secretions from a sick individual who becomes infectious with the onset of symptoms and until a fresh layer of skin has formed over the lesions (2-4 wks). The incubation period is 5-15 days and in addition to the characteristic pox lesions, headaches, fever, chills and lymphatic gland enlargement are typical. More than [40,000 cases](#) have been reported worldwide and it is largely limited to homosexual or bisexual men at present.

Effective [vaccination](#) is available, (JYNNEOS- two-dose vaccine 14 days apart) but should be limited to those at risk. [Tecovirimat](#) is an effective antiviral against most Poxviruses and anticipated to limit Monkeypox consequences. Prior to the new "Pandemic", the NIH was planning to conduct a large-scale clinical trial in the DRC (Congo). Now, that trial may take place closer to home.

# Poliomyelitis

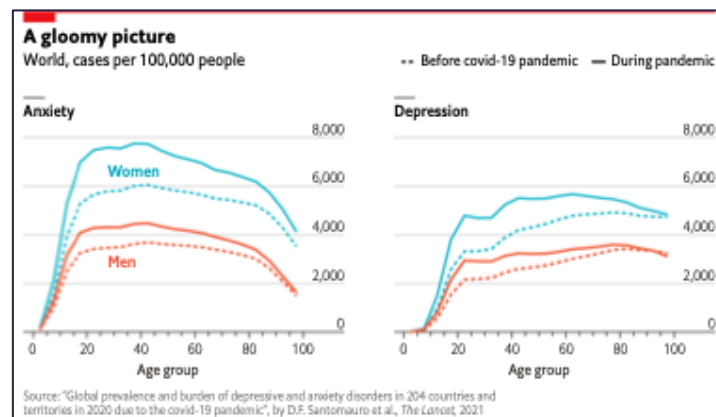
At the beginning of the decade, we were on the verge of eradicating [Poliomyelitis](#) from the planet! There were a few pockets of endemic infection remaining in Pakistan and Afghanistan and in 2020, only a handful of cases were reported. In 2016, Nigeria had the last case of endemic transmission outside those nations.

Then, the SARS CoV2 Pandemic derailed many of the vaccination efforts. This year, surveillance testing of wastewaters both in NYC and London discovered circulating poliomyelitis virus. One case was found in Rockland County, NY, home to many ultra-orthodox communities who have opposed vaccination in the past. Polio and Measles vaccinations are mandatory and all children attending school have received all 4 shots and should be completely immunized. The last transmission reported in the US occurred in 1979.

But there is no reason to panic. The community is largely immunized and no additional circulation is anticipated. Some of the Orthodox communities that reject vaccinations, should make sure all the shots are updated. On the usual [vaccination schedule](#), infants are inoculated at 2, 4, 6-months of age and then at age 4, which provides 100% protection.

## YOUR HEALTH: DEPRESSION

As you well know, our life journey is short and plagued by myriad challenges that conspire against our sense of well-being and as you suspect, most “psychiatric care” is delivered at home and in primary care settings. Given the high prevalence and bad consequences of untreated depression, we decided to review “the basics”. Moreover, it seems that social media, the uncertainties induced by the Pandemic, domestic and



international political unrest, autocrats and their wars (necessary condition for most conflicts), migrations, etc. have heightened human vulnerabilities and led to a spike in Psychological and Psychiatric care throughout the world.

We all think that we are “experts” at recognizing depression and “the blues”. But it is not always straight forward and we may be remiss to accept that it could be affecting our own performance.

[Depression](#) is a mood disorder characterized by the inability to experience pleasure (anhedonia) and the persistent feeling of sadness with associated impaired daily functioning. [Global costs](#) are staggering, it is the leading cause of disability and productivity loss and the economic costs are expected to double by 2030. But analysis identify a return of \$4 for every buck spent on depression care.

In the US, the prevalence ranges from 5-10% but in certain settings is much higher and only about half of depressed people receive adequate treatment. It is easy to understand how depression impacts most other medical conditions (the reverse is also true) and it is the leading risk factor for suicide, which has risen by almost 40% in the last two decades.

Here the diagnostic criteria for Major Depressive Disorders – DSM-5.

The US Preventive Services Task Force recommends screening all adults annually, with particular attention to pregnant and postpartum women, older adults and adolescents. Also, those presenting with unexplained somatic symptoms, chronic pain, anxiety, substance misuse or nonresponse to effective treatments for medical conditions.

The real “pathophysiologic” cause of major depression is a “mystery” and until recently, no biological markers were available. Last year, a group of researchers from Indiana University found 13 RNA markers that not only diagnose depression but also predict who will go on to develop bipolar

Alcohol dependence  
Childhood trauma  
Chronic medical conditions  
Female sex  
Low socioeconomic status  
Older age  
Personal or family history of depression  
Recent childbirth  
Recent stressful events

disease, who is likely to be hospitalized and which drugs are most likely to be effective. Six RNA's were good predictors of depression, another 6 anticipated depression and mania and one predicted mania.

**Many risk factors are known.** Depression is also highly dependent on the prevalence of disease in the population studied.

#### PHQ-2 Screen for Depression

Questions:

- “Over the past 2 weeks, have you felt down, depressed, hopeless?”
- “Over the past 2 weeks, have you felt little interest or pleasure in doing things?”

Scoring: 0 = not at all; 1 = several days; 2 = more than half the days;  
3 = nearly every day

Total score = sum of 2 item scores

There are several tools for screening, but these two simple questions have a sensitivity of 86% and specificity of almost 80% in

primary care settings. A score of 2 should prompt this next questionnaire.

Table 2. Patient Health Questionnaire-9\*

Over the past 2 weeks, how often have you been bothered by any of the following problems? (0 = not at all; 1 = several days; 2 = more than half the days; 3 = nearly every day)

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling or staying asleep or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people have noticed, or the opposite (i.e., being so fidgety or restless that you have been moving around a lot more than usual)
9. Thoughts that you would be better off dead or hurting yourself in some way
10. If you have checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition.

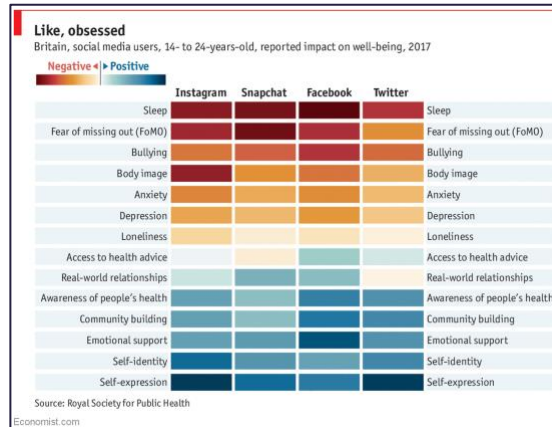
A score of > 10 is diagnostic and provides a severity rating. Major depression can be identified by duration (>two weeks, most of the day) symptoms and degree of distress and

functional impairment (unable to provide basic self-care may require hospitalization and psychiatric consultation).

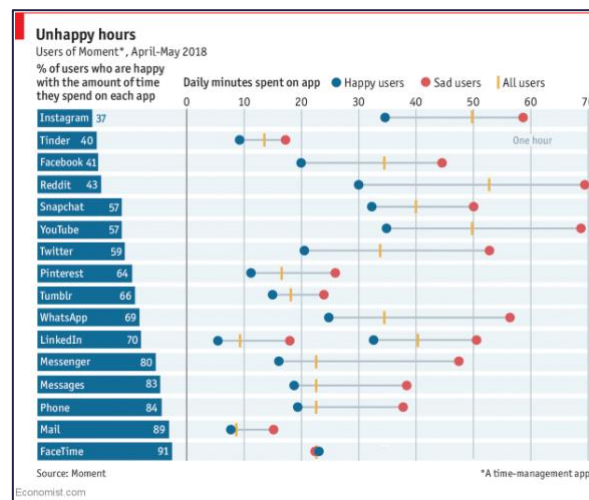
More than 40,000 people die by suicide annually in the US (or 1 every 12 minutes). Mental health and addiction disorders are strong risk factors and prior attempts are the best predictors of completion. Unfortunately, most people who die by suicide have seen a physician in recent months.

In patients at risk it is best to ask them directly about suicidal thoughts, intent and/or plans. More than 50% of men “succeed” with firearms.

Psychiatric consultation may be necessary, particularly when other conditions present, such as severe anxiety, psychosis, mania, hypomania or substance misuse.



According to several surveys conducted in Europe and the US, those aged 14-24 believe that social media enhanced self-expression and community building but worsened anxiety, depression, sleep deprivation, exposure to bullying and heightened worries about body image and “fear of missing out”.



Another survey that tracked 5300 Americans found that an increase in Facebook activity was associated with a future decrease in reported mental health. The “happiness” rate was much higher for FaceTime (91%) and phone calls (84%). As reported by The Economist, **real conversations and gossip are “hard to beat”!**

I have the frequent pleasure of asking my patients “How are they doing”? and how they feel about getting older. They usually reply

“getting old is better than the alternative!”

Life is not a long decline from birth towards becoming “fertilizer”. As I look at my now young adult children and reflect back on my own life, young adults are quite cheerful. But as we reach the late 30’s and early 40’s, the levels of “happiness” go down and reach a low usually labeled “the mid-life crisis” around the mid 40’s (no wonder divorce rates peak). The surprising and good part is that as we get older and wiser, we become more comfortable within our own skins, we learn who we are, and most importantly who we are not, and despite the gradual loss of our mental sharpness, vitality and great looks; we gain “happiness!”. And this “U-bend” in joy is maintained no matter which part of the world is analyzed.

Circumstances also matter. Being married gives a little bump and those with children in the house get a dip. More education does not lift it, when you control for income. Richer people are a bit more cheerful, but how much is arguable.

It seems that gender, personality, circumstances and age all have significant impacts. Women are slightly happier than men and regression analysis demonstrate that two traits have consequences: Neurotic people tend to be unhappy (think guilt, anger, anxiety and poor emotional intelligence) and extroverted ones are happier which may also help explain some cultural differences. Studies comparing similar groups, found Southern Europeans happier than Northerners and all were happier than the Chinese and Japanese. More extroversion was associated with increased happiness (or lack of honest insight).



You may be familiar with the [World Happiness Report](#). Studies in identical twins



reared apart have indicated that 30-40% of the differences in happiness between people is due to genetic differences, making them more or less fortunate. But these and other molecular epigenetic studies seem to confirm that 60-70% of the variance is due to our environmental experiences and that the genetic influences are not fixed from birth but can change in response to our exposures.

Moreover, the majority of the variance is within-country (>80%) rather than

between nations and in another [study](#) evaluating the overall satisfaction with life in 41 countries only 13% of the variance was explained by between-nation differences.

You realize that happiness and most human traits are influenced by both, genes and environments. But we may be able to use findings from those genetic and social studies to create policies and environments that promote happiness and blooming of our genetic potentials.

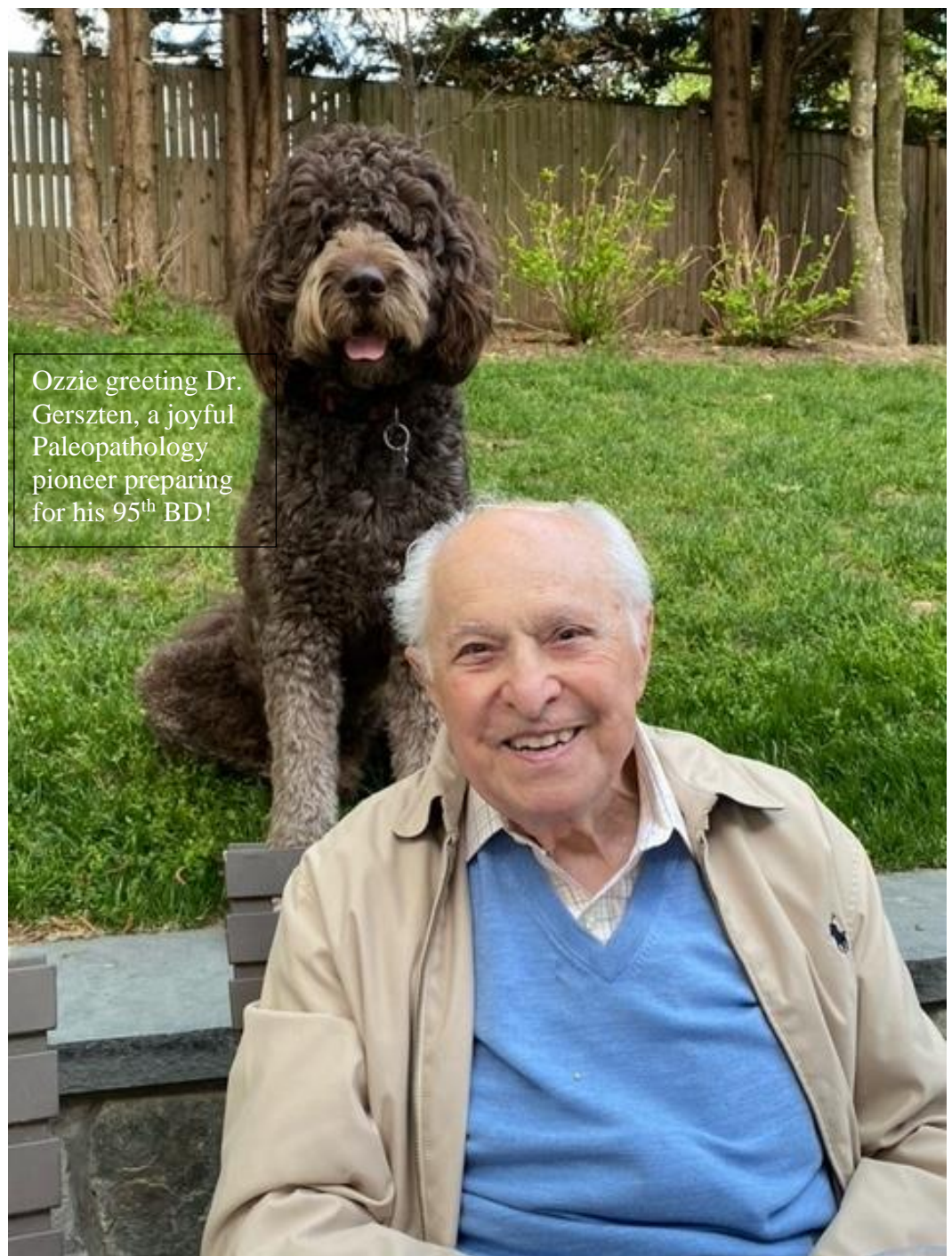
We know that freedoms, social networks, vertical integration of families, remaining relevant with a sense of purpose (familial, social, professional or all of them) are important contributors to our “joy”.

All have heard the mantra “Don’t worry, be happy and take a happy pill! But a recent [round-up of studies](#) on depression seem to bust the long-held hypothesis that a lack of proper amount of the neurotransmitter serotonin is in part responsible for depression. A recent [large study](#) by Dr. Moncrieff of University College, London this past July, ignited a debate on the benefits of SSRI’s. They concluded that there is no proven link between a lack or deficit of serotonin and depression, possibly undoing a long-held framework of research in neurobiology.

And [another study](#) analyzing [232 randomized](#), double blind, placebo-controlled trials of drug monotherapy for major depression submitted to the FDA between 1979 and 2016 found that only 15% of participants had a substantial effect beyond that caused by the “placebo” effect (proven to be approximately 30% in multiple studies).

Therefore, DON’T WORRY, BE HAPPY AND DO NOT TAKE A PILL”?

## DEPRESSION TREATMENT ON THE NEXT “BITS”!



Ozzie greeting Dr. Gerszten, a joyful Paleopathology pioneer preparing for his 95<sup>th</sup> BD!

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If you have 10 minutes, enjoy this [time-lapse of the Entire Universe](#).

If you have 6 more minutes, the [massive expanse of our Universe](#) and the magnificent insignificance of humans will delight you.

You will not be able to watch these two [videos](#) without [smiling](#).

And if you have 5 hours, you will enjoy learning more about [The Mediocre Man!](#)

If you have 7 minutes daily, you can start to improve your fitness right now with the Scientific 7- Minute Workout. Get the app on your phone!  
11 more minutes will get you in shape!  
For core strength, try this 9-minute routine!

AND START EXPLORING AND PRACTICING MINDFULNESS! It will also help you lower your blood pressure and levels of stress. It will raise pain threshold and your overall sense of well-being.

THERE ARE MULTIPLE RESOURCES ON THE WEB.

**Let's all remember that the only certainty in life, is death and the only fountains of youth proven by science and experience are love, exercise, laughter, humor and a positive attitude!**

## OFFICE UPDATES

- Our esteemed Simran Singh, is excited to have initiated her medical career at University of Buffalo, Jacobs School of Medicine.
- Olivia Dragovits ([oliviad@chevyCHASEpulmonary.com](mailto:oliviad@chevyCHASEpulmonary.com)) has replaced Simran. She is competent, sensitive and ready to help you!
- Sarah Molinari is back in her native Florida feeding her Manatees!
- Fiona MacNair has joined the Peace Corps and is now in remote rural Namibia improving the lot of their children.
- Erik Savereide is now working on his medical degree at the University of Michigan in Ann Arbor.
- Samantha Morales (fortunately) has decided to help us for another year as she continues to work towards her Medical School acceptance.
- Dr. Scott Cohen has retired as of June 30<sup>th</sup> and is enjoying riding his bikes into the sunset, books and the company of his lovely wife!
- Dr. Shahzad Ahmad has joined us from Stanford University and promises to be a great addition to our practice.
- I will be away enjoying my summer vacation (and taking our youngest child to college) from August 26<sup>th</sup>- September 7<sup>th</sup>, but never too far from email. My partners will cover emergencies in my absence as usual.

Wishing you a HAPPY Summer and Fall!

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