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#1 - We are NOT starting from SCRATCH!

- **mRNA technology** was discovered **30 YEARS** ago!
- Scientists worked on the coronavirus vaccine during the **2003 SARS & 2013 MERS outbreaks**.
- mRNA technology seemed too “far-fetched” for big grants & corporate funding back then so human trials were started but could not be fully completed. Scientists continued to research it further anyway despite this. Many wished there was more support back then. Hindsight is 2020 (I know, bad pun)!!
- mRNA vaccines were given to **>1280** trial participants since 2013! Within the **past 7 years, no severe adverse events!!**

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#2 - Global Collaboration Simultaneously & Rapidly!

- I don't think people realize just how **IMPORTANT** this is. Never before have scientists **ACROSS THE GLOBE** worked together like this.
- The **SARS-CoV-2 Genetic Code** was **RAPIDLY** shared with scientists on January 10, 2020.
- -->mRNA sequence of the spike protein was found & the vaccine made at lightning speed (**just over a MONTH**)--this otherwise would have taken YEARS.

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#3 - MUCH Easier Vaccine Production!

- Instead of having to grow the virus in petri dishes, all we had to do was make our own (called synthetic mRNA)! This is **EXPONENTIALLY faster**.
- We usually have to wait YEARS for other vaccines to be produced, instead it took WEEKS to MONTHS!
- Don't be afraid of new medical tech! For example, Albuterol wasn't available for asthmatic patients until the 1980s. Before then, thousands of kids died from asthma! But a NEW medicine called albuterol now **saves countless people's lives!!**
- --> It's called **scientific advances!** This is how scientists save lives!

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#4 - HIGH Rates of COVID = FASTER Study Results

- **Enrollment** was done at **record speed**: everyone & their mother wanted to be in our COVID vaccine trials!
- This is NOT normally the case & enrollment itself usually takes many MONTHS to YEARS.
- When we study vaccine **EFFICACY** we need to compare the number of **INFECTIONS** in **VACCINATED** people vs **UNVACCINATED** people.
- -->this normally takes YEARS because most vaccines are against **RARE diseases**
- But **COVID is NOT rare** so we had enough data REALLY fast--in just WEEKS

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#5 - LOADS of Funding/Collaboration from Government & Multinational Organizations!

- **BY FAR** one of the most important reasons why vaccine production was **SO RAPID**
- Vaccine companies don't usually have enough \$\$ to make tons of their vaccine
- But bc there's a PANDEMIC, **billions of \$\$\$ was pumped** into making the vaccines even **BEFORE** the clinical trials were done
- This step is not normally done until a vaccine has been APPROVED (for obvious reasons).
- Trust me when I say that the government is normally A LOT SLOWER with everything, even if it's important (unfortunately). We have **avoided mountains of paperwork and time lost** bc of their amazing collaboration (and should be this way going forward)

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#6 - We got rid of bureaucratic RED TAPE WITHOUT getting rid of SAFETY checks

- We **combined** clinical trial PHASES (This is how it should have been!)
- This means we can keep ALL the **safety steps** done in each phase but perform them simultaneously, saving us YEARS!
- An EXAMPLE of how we have kept ALL SAFETY checks: We have even PAUSED some trials bc of some potential concerns (found out later that the problems were from people who DIDN'T get the vaccine).
- If we didn't care about safety, **why would we pause trials** and delay everything??
- -->We did everything quickly **WITHOUT skipping safety checks**

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"But we don't have long-term safety data"

- **I hear you**--but AGAIN we are in a **PANDEMIC**. As of today 12/7/2020, **67 MILLION** have contracted COVID, & **1.54 MILLION** have died. **COVID is killing 1 person EVERY 30 SECONDS**.
- We can't wait YEARS to see "long term safety data"
- However we DO have **>7 MONTHS of data for 76,000 PEOPLE** and most SERIOUS adverse effects would have shown themselves within **6 weeks** of getting the vaccine.
- Science experts have said that it is EXTREMELY unlikely that this vaccine will cause long-term side effects just because of the way this vaccine works.
- I've looked at the data, and I personally think it's going to be **SAFER** than any other vaccine ever made before (remember, the vaccine doesn't even have the whole virus!)
- Again, there are people who took mRNA vaccines **7 years ago** and we still don't have any severe adverse outcomes from those studies!

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Personally, I'm MUCH more afraid of COVID than the VACCINE.

- We always need to weigh **pros & cons**.
- For us Science & Medical **experts**, we think the pros of the vaccine **FAR outweigh** the cons.
- The **silver lining** to all of this? Future vaccines may be created at record speed even if there isn't a pandemic! Bc ideally this is how ALL vaccines should be developed and approved.
- I try to explain to patients that diseases like Polio & Smallpox killed thousands of people every year until the vaccine came out and we eventually went **"back to normal"**. This is how we're going to do that again.
- It sounds like a miracle (because it kind of is) but it's the power of **SCIENCE!!!!**
- See my previous post called **HOW DO I KNOW THE COVID VACCINE IS SAFE?**

PLEASE SHARE & SAVE!

- **Healthcare Workers 4 Science #hcw4science**
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