

Question: How long did it take to reload and fire a single shot, flint-lock pistol used during the Revolutionary War? A) 5 seconds B) 10 seconds C) 20 seconds D) 30 seconds

Gun Death Research

Gun related deaths in the U.S. are an embarrassment when compared to such deaths in other developed countries. Our gun death rate is 8 times that in Canada and about 100 times that in the U.K.¹ Within the U.S. there is high variability in the rate of gun deaths by state. Four states have rates below 5 deaths/100,000, whereas six states have death rates above 20/100,00.² Texas is somewhere in the middle with 12.7 deaths/100,000. A news article from the JAMA noted the promise for solutions as federal funding for gun violence research is once again happening after a 20-year hiatus.³ The research was effectively halted in 1996 by the Dickey Amendment which forbade the CDC to spend funding to advocate or promote gun control. In 1995 the number of gun deaths was

approximately 36,000.⁴ This year we are on track to have 44,000 gun-related deaths.

The research funding is a mere \$25 million, but it is a start in the right direction. The U.S. certainly needs to learn what works and what does not work when curtailing gun deaths. The proponents of this research know that they must include gun advocates in their research agenda. What factors lead to gun violence and what legislative initiatives will lead to better control without tromping on the rights of gun owners? Law enforcement representatives must also play a key role in research and transitioning research findings to law. I think we could learn what works by comparing low-death states with high-death rate states. How are they different in factors that may pertain to gun deaths? Likewise, we could learn from other countries that have much lower gun deaths than we do. Most do not have anything like our second amendment: ‘A well-regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms shall not be infringed.’ I am trying to figure out where the ‘well-regulated Militia’ exists. As of September 1, 2021, we have unlicensed carry of handguns in Texas.⁵ The picture is a replica of George Washington’s pistol used during the Revolutionary War.⁶



¹ <https://www.upr.org/post/gun-violence-deaths-how-us-compares-rest-world#stream/0>

² https://www.cdc.gov/nchs/pressroom/sosmap/firearm_mortality/firearm.htm

³ <https://jamanetwork.com/journals/jama/fullarticle/2782899>

⁴ <https://www.infoplease.com/us/health-statistics/deaths-firearms-1979-2010>

⁵ [Carry of Firearms - Gun Laws - Guides at Texas State Law Library](#)

⁶ https://www.mountvernon.org/preservation/collections/general-washingtons-military-equipment/#g-1607_m-di-0030-1-w-480ab

Pros and Cons of Masks

A couple of MDs wrote a JAMA Insights summary of the evidence that mask wearing is effective in reducing COVID spread in community situations.⁷ The case for mask wearing is easily and thoroughly presented using discussion and a table listing 11 studies on the subject. The study environments vary from hair salons to Navy ships, to grocery stores, to hospitals, and to populations in selected states. The most valuable effect of wearing masks is that virus particles and droplets on which they ride are not easily spread beyond the mask. Less effective, but still significant, is the ability of masks to prevent entry of virus laden droplets into the respiratory system of the wearer.

The authors suggest that adverse effects of masks have not been demonstrated. I know a man with COPD whose blood oxygen saturation drops below 90% when he wears a well-fitting mask. He rarely wears a mask. In support of the issues associated with mask wearing, a team of investigators asked how high the carbon dioxide levels go inside masks worn by children.⁸ The study purported to show that levels of carbon dioxide were highly elevated in school age children when wearing a mask. *More interestingly and important, the study has been retracted because the methods were not robust as pointed out by experts in the field.* The editors noted, ‘Given fundamental concerns about the study methodology, uncertainty regarding the validity of the findings and conclusions, and the potential public health implications, the editors have retracted this Research Letter.’ From my viewpoint, this is a rare action. It points out the care necessary for those opposed to mask wearing. Be cautious with assertions. In science, it is the ability of studies to be replicated in independent laboratories that leads to valid conclusions. Wear your mask.

I decided to see how easy it was to find sites that used the results of this study without noting that it was retracted. It took me about 10 minutes to find a half dozen sites. Some of the sites have

‘interesting names.’ Most make the case that children are harmed by the reported levels of carbon dioxide. I was happy to see that Facebook, a site that posted the result, had it clearly labelled ‘patently false.’ Be careful about misinformation.

All in the Family

One thing I am asking myself, and I suspect many of my readers are asking, is this, ‘Now that my child or grandchild is back in school, how much is my risk of getting COVID increased when I am around that child?’ A couple of MDs wrote an interesting editorial for JAMA Pediatrics entitled ‘Yes children can transmit COVID, but we need not fear.’⁹ A major study of households in Ontario, which the authors summarize, showed that the primary case (one coming home with the disease) and the primary spreader (the one spreading the disease to others in the household) may vary with the times. When very young children go to daycare, they may become both the primary case and spreader. This is because family members will comfort the infected, young child in distress. However, even if there is another primary case, if the youngest child should become infected, it will be the primary spreader. After all their speculation about family dynamics and virus spread, the authors conclude that there is no need to worry because all you need to do is be vaccinated. I do not think it is that simple.

One Solution to Chronic Back Pain

As one who has become acquainted with chronic back pain, I eagerly read an article that compared two ways of dealing with this condition. I have been through physical therapy, an X-ray, and MRI, and now find that a micro-laminectomy is probably my best solution. A large team of investigators tested whether a single session of evidence-based pain management skills (empowered relief) was as good as an eight-session series on

⁷ <https://pubmed.ncbi.nlm.nih.gov/33566056/>

⁸ <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2781743>

⁹ <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2783027>

cognitive behavioral therapy (CBT).¹⁰ The investigation involved 263 patients (2017 to 2020) with at least 6 months of low-back pain episodically on intensity of 4 or more on a 10-point scale. The average age of participants was 48 years old. The outcomes assessed after 3 months were as follows: pain catastrophizing, pain intensity, and pain interference. The ‘catastrophizing’ measure captures emotional responses to pain with a 13-point questionnaire. Pain intensity and interference are self-evident but are not independent of ‘catastrophizing.’ The study employed 3 groups, but for simplicity, I will characterize the findings in only 2 of these – empowered relief (EP) and CBT.

After 3 months following EP or CBT, the participants experienced comparable relief on each of the 3 outcomes. Since CBT is less accessible, the fact that a single session of EP provides ‘non-inferior’ relief is significant. Chronic low back pain is the most prevalent of all pains in adults. I like the idea of empowering patients to take charge of management of their low back pain without medication. I would add one precaution here. If you find a way to mask low-back pain, you must not get to the point where numbness sets in. If you let this go too long, it may be impossible for surgery to resolve the cause of your low back pain. That is why I chose surgery during a comprehensive session of shared decision making with my spine surgeon.

Identifying Low Performing Physician Groups

We all wish to find physicians that will optimize our health and treat us properly when the time comes for medical interventions. A dedicated team of experts asked if examination of the treatment of patients within the Aetna Insurance community could identify low performing groups. They based comparisons on treatment of diabetes and cardiovascular disease.¹¹ They looked at records of almost 800,000 patients treated by nearly 900 physician groups. They used 6 criteria for quality

diabetes care and 4 for cardiovascular care. They followed these over 4 years (2016 to 2019), looking for patterns that suggested sustained poor performance.

They were able to identify a subset of physician groups that were consistently low performing based on the 10 criteria and 4 years of performance. Between 4-11% of practices were in the bottom quartile of performance for most measures and for 4 years. There is a message here: Patients should ask about the guidelines being used to care for any chronic illness they may have. In this case it was diabetes and cardiovascular disease, but the principle applies to many other diseases. If your care is not following guidelines, you should know.

Hospital Pay-for-Performance

In 2008 Medicare implemented a pay-for-performance (PfP) mandate, seeking to reduce the prevalence of surgical complications during hospitalizations. Under the program, a hospital is not paid for fixing conditions resulting from poor quality surgery. A team of 5 investigators sought to understand if this program improved patient outcomes.¹² Their approach was to compare hospital acquired conditions (unintended or adverse results of surgery) for the targeted surgical procedures with those not on the target list over the years before and after implementation of PfP. The target list included the following: cardiac implantable electronic devices, bariatric surgery, and a bunch of orthopedic procedures, including total hip and knee replacement.

The hospital acquired conditions (HACs) included the following: surgical site infection, deep vein thrombosis, mortality, length of stay, and cost. The authors graphical presentation of data was quite instructive. Surgical site infections decreased slightly more in targeted surgeries than in those not targeted. Average length of stay was about ½ day less in targeted vs. non-target surgeries. Hospital costs dropped about 8% more in the targeted vs. the non-targeted surgeries. No relative decrease in deep

¹⁰<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2783047>

¹¹<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/278243>

¹²<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2783179>

vein thrombosis or mortality was observed. The point in my summarizing this article was to show that federally mandated policies attempting to improve hospital quality of care, in this case surgery, may work. Improvements are small.

General and COVID Links

U.S. is dead last among 11 developed nations in Healthcare Assessment (Commonwealth Fund):

https://www.commonwealthfund.org/publications/fund-reports/2021/aug/mirror-mirror-2021-reflecting-poorly?utm_source=alert&utm_medium=email&utm_campaign=Impoving+Health+Care+Quality

Nominated for an Emmy: PBS on what is wrong (featuring Houston) and how to learn from other countries (4 videos): <https://www.pbs.org/newshour/series/the-best-health-care-america-the-world>

Privatization of public health in Detroit cost lives in the pandemic (KHN): <https://khn.org/news/article/detroit-hard-lessons-privatize-public-health/>

Risk of new Alzheimer drug as experienced by retired neurologist: <https://www.bostonglobe.com/2021/07/31/business/retired-neurologist-with-alzheimers-knows-firsthand-risks-biogens-new-drug/>

VA rejects Aduhelm (Alzheimer drug): <https://endpts.com/exclusive-va-decides-against-adding-biogens-aduhelm-to-its-formulary-as-pbm-shuns-controversial-alzheimers-drug/>

Some who need blood do not want it from a vaccinated person: <https://khn.org/news/article/tainted-blood-covid-skeptics-request-blood-transfusions-from-unvaccinated-donors/>

Alzheimer Association pushed FDA hard on Aduhelm approval: <https://changingaging.org/blog/trust-at-stake-alzheimers-associations-role-in-fdas-approval-of-aduhelm/>

Massive number of unnecessary surgeries by cardiologist in Utah: <https://www.theatlantic.com/politics/archive/2021/08/health-care-sherman-sorensen-pfo-closures/619649/>

Optimal vaccine rate in Texas and Florida could have saved 4,700 lives: <https://www.commonwealthfund.org/blog/2021/increasing-covid-19-vaccination-rates-florida-and-texas-could-have-saved-4700-lives>

Message on masking in schools in Tennessee from hospital system CEO: https://www.wmot.org/2021-08-19/deeply-conservative-hospital-ceo-predicts-where-tennessees-health-crisis-is-headed-next?fbclid=IwAR13ztFxn4gtOKxnkcCsr78VrvZbUSjw80KIdPihORNpZl_9vNwinLH8k

Rant about which states get vaccinated and which are MAGA (raw): <https://www.theroot.com/we-fact-checked-fox-news-racist-lie-it-turns-out-the-1847523366>

Evolution of the coronavirus (STAT News): <https://www.statnews.com/2021/08/20/viral-evolution-101-coronavirus/>

Hospitals likely less safe as they are given immunity from malpractice accountability: <https://www.forbes.com/sites/leahbinder/2021/04/09/new-press-ganey-report-warns-that-covid-19-may-have-worsened-hospital-safety/?sh=ecc8dd5b330>

Antibodies as indicator of protection against COVID: <https://www.npr.org/sections/health-shots/2021/08/23/1029827996/new-evidence-points-to-antibodies-as-a-reliable-indicator-of-vaccine-protection>

Understanding hospitalization and COVID vaccination; know how to interpret the data: <https://www.covid-datascience.com/post/israeli-data-how-can-efficacy-vs-severe-disease-be-strong-when-60-of-hospitalized-are-vaccinated>

Unmasked, unvaccinated, symptomatic teacher spreads COVID to many of her young classroom students: https://www.cdc.gov/mmwr/volumes/70/wr/mm7035e2.htm?s_cid=mm7035e2_w

Moderna induced antibodies are much higher than Pfizer induced antibodies after vaccination (Belgian study): <https://www.bloomberg.com/news/articles/2021-08-31/moderna-a-jab-spurs-double-pfizer-covid-antibody-levels-in-study>



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<http://patientsafetyamerica.com/e-newsletter/>

Answer to question: (B) about 10 seconds (<https://www.youtube.com/watch?v=yjaXFrBhCF0>)