

← Thread



Dr Satoshi Akima FRACP 『秋間聰』
 @ToshiAkima



I agree wholeheartedly with the criticism of the way the Conly Cochrane meta-analysis dismissive of masks has been conducted. But—sorry, team—I need to add some wee quibbles from a philosophy of science perspective. 📖



theconversation.com

Yes, masks reduce the risk of spreading COVID, despite a review saying they ...
An updated Cochrane Review suggests face masks don't reduce the spread of COVID in the community. But there are several reasons why this conclusion i...

6:21 AM · Feb 7, 2023 · **293K** Views



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Reply



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7
Replying to @ToshiAkima



The biggest shortcoming of RCTs of respirators is this: where direct mechanistic evidence retains predictive validity, this is the preferred form

of scientific evidence. The invalidity of direct mechanistic modelling needs to be proven before falling back on RCTs.

10 100 470 801K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

Look at the key occupational PPE worn by this soldier: tactical respirator, helmet, body armour. None are tested by RCT. Some non-clinicians sitting in an office demand RCTs before the *same gear* can be issued to HCW before going into battle against COVID.



10 147 568 23.8K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

Let's look at the filtration component of a military tactical respirator. It protects against the inhalation of hazardous gasses and bioaerosols in chemical and biological warfare. Here is a 3M HF-800 half-mask, which can do much the same thing.

3M Science Applied to Life.

Next Generation Comfort, Breathability and Simplicity

Introducing the 3M™ Secure Click™ Half Facepiece Reusable Respirator HF-800 Series

- New Speaking Diaphragm**
Designed to help provide easier communication while working
- New Unique Filter & Cartridge Connection**
Snaps into place for intuitive assembly
- New Silicone Flex-Joint Faceseal**
Provides a softer feel for more comfort on the wearer's face
- New Easy-Adjust Buckle**
Simple two-way adjustability: pull straps to tighten, squeeze wings to loosen.
- New Push Button Seal Check**
- New Better Breathability**



Dr Satoshi Akima FRACP 『秋間聡』 @ToshiAkima · Feb 7
 Here are the filter options for the @3MSafety HF-800SD series sold on Amazon. Even the filter for chemical vapours is NIOSH P100 rated against particulates (like asbestos) and bioaerosols. A military tactical respirator is a minor variation of a medical bioaerosol respirator.

	D80926	D80923	D80921	D3096	D7N11
	Multi-Gas/Vapor Cartridge/Filter P100	Organic Vapor/Acid Gas Cartridge/Filter P100	Organic Vapor Cartridge/Filter P100	Nuisance Level Acid Gas Relief Particulate Filter P100	Particulate Filter N95
	3M Secure Click Multi-Gas/Vapor Cartridge/Filter	3M Secure Click Organic Vapor/Acid Gas Cartridge/Filter P100	3M Secure Click Organic Vapor Cartridge/Filter P100	3M Secure Click Particulate Filter P100 with Nuisance Level Acid Gas Relief	3M Secure Click Particulate Filter N95
Compatible Respirator	3M Secure Click Half Facepiece Reusable Respirators HF-800 Series	3M Secure Click Half Facepiece Reusable Respirators HF-800 Series	3M Secure Click Half Facepiece Reusable Respirators HF-800 Series	3M Secure Click Half Facepiece Reusable Respirators HF-800 Series	3M Secure Click Half Facepiece Reusable Respirators HF-800 Series
Connection Type	Secure Click	Secure Click	Secure Click	Secure Click	Secure Click
Product Type	Filter & Cartridge Combo	Filter & Cartridge Combo	Filter & Cartridge Combo	Filter	Filter
Protection Type	Chlorine Dioxide, Organic Vapor	Hydrogen Chloride	Particulates	Particulates	Particulates
Recommended Application	Seal Coatings	Seal Coatings	Seal Coatings, Spray Insulation	Mold Remediation	Grinding
Specifications Met	NIOSH Approved	NIOSH Approved	NIOSH Approved	NIOSH Approved	NIOSH Approved

2 33 260 18.5K



Dr Satoshi Akima FRACP 『秋間聡』 @ToshiAkima · Feb 7
 Let's take a closer look at that military tactical respirator. You can make out faint EU CE certification markings, probably similar (if not the exact same) CE markings as those conferred to non-military elastomers.





Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7
 An elastomeric respirator goes through the same bioaerosol and particulate testing protocols based on EU CE standards as a disposable FFP2 or FFP3 respirator. The physicochemical principles by which they work are also identical.



1 47 301 9,975



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7
 We don't expect military helmets and body armour to be live tested vs placebo before being declared worthy of issue as military PPE. Nor do we expect military tactical respirators to be live tested vs placebo in a gas or biowarfare attack, prior to becoming standard issue.

3 107 536 13.7K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

Or are we to believe that the toxic vapour filtration (for chemical warfare) and the bioaerosol filtration (for biological warfare) of the *same* NIOSH/CE certified filter should be tested by different standards? One by direct mechanistic testing, the other by clinical RCT?

3 40 346 19.1K



Dr Satoshi Akima FRACP 『秋間聡』 @ToshiAkima · Feb 7

As with crash-testing helmets, there is no reason that laboratory testing of respirators does not accurately predict outcomes in the real world. Because evidence gained from direct mechanistic modelling retains predictive validity for the real world.

VIRGINIA TECH™ HELMET RATING



helmet.beam.vt.edu
Virginia Tech Helmet Ratings
Virginia Tech Helmet Ratings - testing sport helmets to evaluate their ability to reduce brain injury risk.

2 55 391 12.2K



Dr Satoshi Akima FRACP 『秋間聡』 @ToshiAkima · Feb 7

Bioaerosols behave according to the predictive laws of physics. In-laboratory direct mechanistic testing of a respirator can be demonstrated to be predictive of protection against airborne bioaerosols. It is unethical to subject wearers to live RCT testing in biowarfare.

1 74 401 10.9K



Dr Satoshi Akima FRACP 『秋間聡』 @ToshiAkima · Feb 7

Testing in real-world RCT settings is more likely to introduce confounding from compliance and deployment training issues. If soldiers died before donning respirators in a Novichok attack in Ukraine, would you declare surgical masks just as effective as tactical respirators?

4 50 346 10.5K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

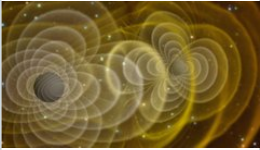
The likes of Conly are useless academics who sit in an office trying to get us frontline HCWs killed and injured by hindering universal access to correct PPE. They have blood on their hands. Thousands of HCWs have suffered from such incompetence.

6 136 574 16K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

The majority of science is done by predictive corroborative testing of direct mechanistic modelling without RCTs. For example, Einstein's general theory of relativity predicted gravity waves which took decades before they were definitively confirmed.



ligo.caltech.edu
What are Gravitational Waves?
A description of gravitational waves

1 33 308 7,509



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

Medicine is the black sheep of science, as predictive modelling of drug efficacy is not yet valid. We can't design drugs with direct mechanistic modelling like engineers design bridges. We are reduced to primitive trial-and-error empiricism to see if a drug kills or cures.

10 83 466 22K



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 7

In most sciences, direct mechanistic modelling retains predictive validity. We can't generalise from its invalidity in medicine to think the same limitations of predictive modelling apply to aerosol physics, which is judged by the evidence standards of physics, not pharmacology.

14 77 450 19.9K



Devabhaktuni "Sri" Srikrishna @sri_srikrishna · Feb 8

Replying to @ToshiAkima
The RCT vs "everything else" debate seems to go long back many years at least



raps.org
 Former CDC Director: Medicine Should Look Beyond Randomized C...
 In an article in the New England Journal of Medicine on Thursday,
 former director of the US Centers for Disease Control and Preventio...

1 3 25 1,597 ↑



Dr Satoshi Akima FRACP 『秋間聰』 @ToshiAkima · Feb 8

Replying to @sri_srikrishna

Note Vinay quote! Once personalised medicine gets underway, it will make more RCTs difficult as medicine becomes more molecular—and mechanistic, like engineering. Vinay senses that and is digging his heels in as an RCT dogmatist.

1 1 40 1,371 ↑

Show replies



Trisha Greenhalgh @trishgreenhalgh · Feb 7

Replying to @ToshiAkima

totally agree!

1 1 32 3,291 ↑



Rusian Troll. Online Account. @TrollRusian · Feb 9



Replying to @ToshiAkima

Ah, the Sour Grapes of Epistemology, wherein "evidence-based" medicine proponents, jealous of other fields of "harder" sciences, insist on dragging the practice of those other fields back into the morass of double-blind empiricism they themselves are unable to clamber out of.



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177



Vinay Kishore @vinay_kishore · Feb 7



Replying to @ToshiAkima

[@threadreaderapp](#) unroll

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3,053



sally 🕶️ 🤧 🦋 **surviving covid hegemony** @sejwatson · Feb 7



Replying to @ToshiAkima

betcha if it was raining asbestos, Conly would be wearing a respirator

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11

1,181



holiday vibes @needs_holiday · Feb 8



Replying to @ToshiAkima

If success of mask wearing is dependent on the effort of the person wearing it, they should not be dismissed or discouraged. Whats the agenda of any medical professional dismissing masks - i only see well when i wear my glasses properly. Same goes for seat belts

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365



Don Ford - The People's Strategist - @DonEford · Feb 14



Replying to @ToshiAkima

RCTs are strictly for treatments.

Masks are not treatments.

The end.



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23

383



never ever @4__mula · Feb 7



Replying to @ToshiAkima

So, at best, the RCTs measure the efficacy of people at wearing masks

6 3 57 3,435



Berkley Lynch @berkley_lynch · Feb 7

Replying to @ToshiAkima
Excellent thread, thanks.

2 677



Magic And Kittens @HogwartsHudson · Feb 15

Replying to @ToshiAkima
Fantastic thread

34



Jennifer Cooper @ReJennerating · Feb 7

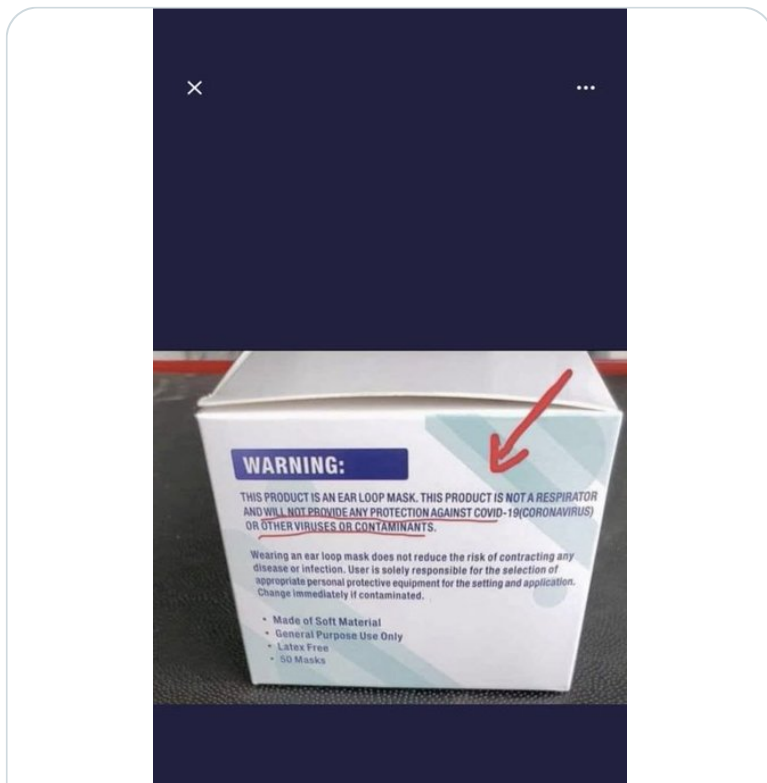
Replying to @ToshiAkima
Excellent. Thank you. RCT have a place when mechanistic studies are not possible. Time for medicine to wake up to this distinction.

5 833



Marie @MazP1976 · Feb 7

Replying to @ToshiAkima and @DFisman



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298

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32

Tweet your reply

Wayne McDougall @waynemcdougall · Feb 7

Replying to @ToshiAkima

Nahhh, I'm not convinced.

I'm going to keep using RCTs to find my calculus proofs - I've yet to see any trials that show integration by parts works any better than a placebo.

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12
723

#IStandWithUkraine @PublicJQP · Feb 7

Replying to @ToshiAkima

Science progresses one funeral at a time. Max Planck.

8
433

Scientist & N95 #DavosSafe 🧤💉 @ickiestvicki · Feb 7

Replying to @ToshiAkima

I have never once questioned if I needed a RCT to test if my N95 or P100 would not work against asbestos or silica when working in underground mines.

2
44
1,597

Ken Lux @69L46 · Feb 7

Replying to @ToshiAkima

My generous assessment of anti-mask MDs is that they were raised on the dogma of droplet transmission and are facing obvious aerosol transmission. In their field RCTs may well be the gold standard, but aerosol science is a new area for them that has better tools than RCTs.

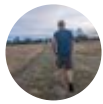
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78
2,885

Will @Will83756176 · Feb 7

Replying to @ToshiAkima and @Globalbiosec

If masks worked as well in practice as they do in theory we'd all be better off

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5
891



Fünfuhrttee 🇪🇺 @Fuenf_UhrTee · Feb 7



Replying to @ToshiAkima

Thank you very much.



972



Tropical 'pandemic still a thing' 🌻 @TropicalVertic1 · Feb 14



Replying to @ToshiAkima

The RCTs seem to indicate the failure of public health messaging re airborne aerosol transmission and respirator efficacy vs baggy surgical/cloth masks.



145



Ken Lux @69L46 · Feb 7



Replying to @ToshiAkima

They really are like evangelicals claiming the earth is 6500 years old. They were taught that is truth and will only consider their dogma in assessing contradictory claims.



3



27

1,443



Joe Duarte 🌱 @ValidScience · Feb 7



Replying to @ToshiAkima

The variable is COVID spread or infection risk, not droplets or mechanistic outcomes. That's a big mistake to make. Arbitrary reductions in pathogen population don't necessarily reduce infection risk – you have to find out, scientifically.



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470



yehuda harmor @fluffylucy · Feb 15



Replying to @ToshiAkima and @Ckanned

I read the review and realised it was a review of masking policy implementations not of masks themselves. That so many conflate the two, is disappointing, to say the least.



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80



AlleBurgers @AlleBurgers · Feb 15



Replying to @ToshiAkima and @karamballes

Great analysis.

🗨️ ↻ ❤️ 1 📊 61 ⬆️



wes george @wesgeorge8 · Feb 8

⋮

Replying to @ToshiAkima

My own anecdotal experience with masking is that the public will wear poor quality masks or improperly fit masks in high percentages.

Also, workers over use of masks can cause unintended health consequences. Maybe limit masks to special risk situations is best?

🗨️ 1 ↻ ❤️ 📊 172 ⬆️



Ken Lux @69L46 · Feb 7

⋮

Replying to @ToshiAkima

My less generous assessment is that they think that they are smarter than all these heretical engineers/scientists who are talking about aerosol transmission.

So they try to use RCTs to disprove respirator benefits although RCTs obscure the effects they claim to measure.

🗨️ 1 ↻ 3 ❤️ 50 📊 1,870 ⬆️



John Kriby @johnkriby1 · Feb 8


⋮

Replying to @ToshiAkima

Part of the problem may be the idea that masks are a "medical intervention."

Are seatbelts and bicycle helmets medical interventions? Most would say 'no'. But then neither are masks. They are all external safety devices.

Myth #1 here is about RCTs...

	<p>ncbi.nlm.nih.gov Six Persistent Research Misconceptions Scientific knowledge changes rapidly, but the concepts and methods of the conduct of research...</p>
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🗨️ ↻ 4 ❤️ 32 📊 1,568 ⬆️



Johannes Johansson #NAFO 🇺🇸 🇪🇸 🤔 😊 @Ethereal_PhD · Feb 7

⋮

Replying to @ToshiAkima and @1goodtern

Sad to see the article still misinterpret the Bangladesh study. It showed that increasing mask usage from 13 to 42 % reduced transmission by 11 %,

so a more realistic estimate of mask effectiveness, as imperfectly used, would be $11\% * 100 / (42 - 13) = 38\%$.

4 1 16 1,530

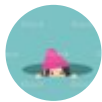


CivillyDisobedient.us @DisobeyCivilly · Feb 7

Replying to @ToshiAkima

So no, masks don't work. Respirators may work. The study isn't incorrect.

1 10 594



FriendlyinaFoxhole @viaFoxholecourt · Feb 7

Replying to @ToshiAkima

You are correct however the issue lies in the denial by Conley and other public health officials that Covid is airborne. No one denies HCW N95 masks for TB because they don't deny it's airborne. This is the crux of the problem with IPAC

3 2 63 2,314



Dr. Lynn Fynn-derella @Fynnderella1 · Feb 8

Replying to @ToshiAkima and @DFisman

No they don't.



Dr. Lynn Fynn-derella @Fynnderella1 · Jan 31

1) Masking was a non-starter! To the argument "Why do Drs. use them in surgery?" It's just to keep particulate out of wound field- nothing else!

- Ritter et al., in 1975, found that "the wearing of a surgical face mask had no effect upon the overall operating room

Show this thread

409



doesnotcompute @doescomputing · Feb 8

Replying to @ToshiAkima

This is a huge red herring...

- 1) You're talking about respirators, not masks
- 2) You're talking about individual usage, not community transmission from mandates.

Nothing you presented refutes the conclusions. 🙄

1 3 166



Mark Johnson @MarkJohnsonTw · Feb 8

Replying to @ToshiAkima

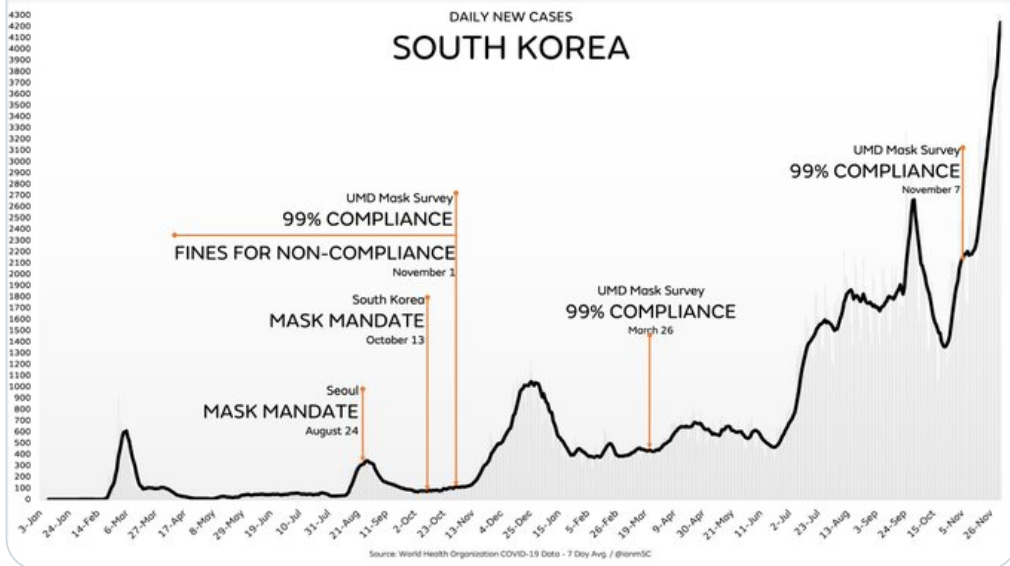
Some wee quibbles with your analysis

- * general societal masking does not work against Covid
- * industrial workers military wear masks respirators because the hazard area is limited and known. Covid is everywhere people don't wear masks all the time
- * cloth surgical mask useless



Ian Miller @ianmSC · Dec 3, 2021

Cases in South Korea are 305% higher than last winter's peak, despite consistent 99% mask compliance and over 80% of their population vaccinated, but the good news is they're going to start vaccine passports, because governments are addicted to doing what's already failed



1 1 176