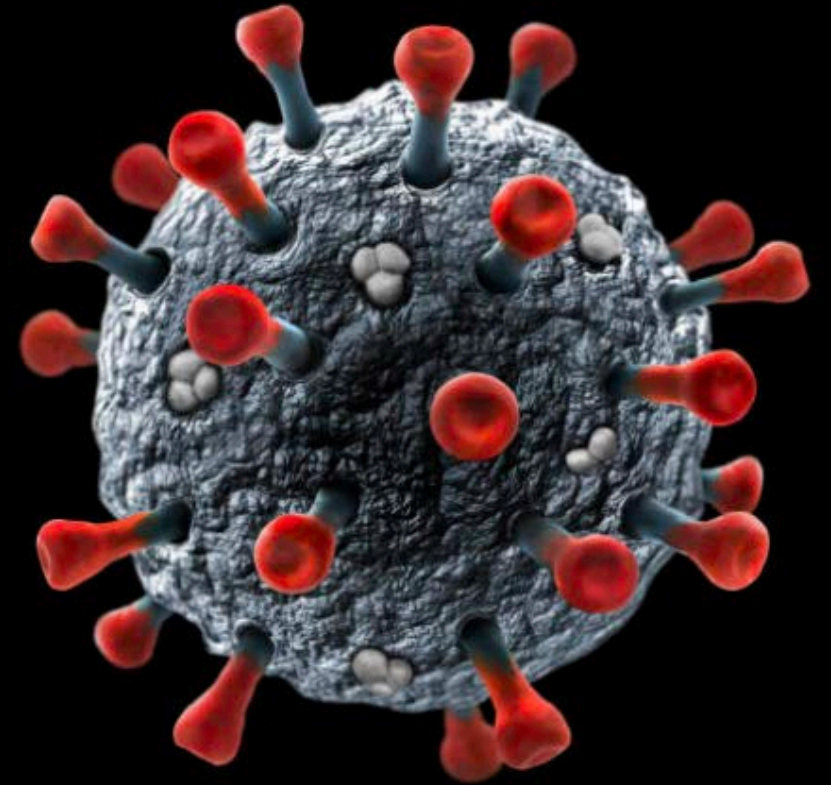


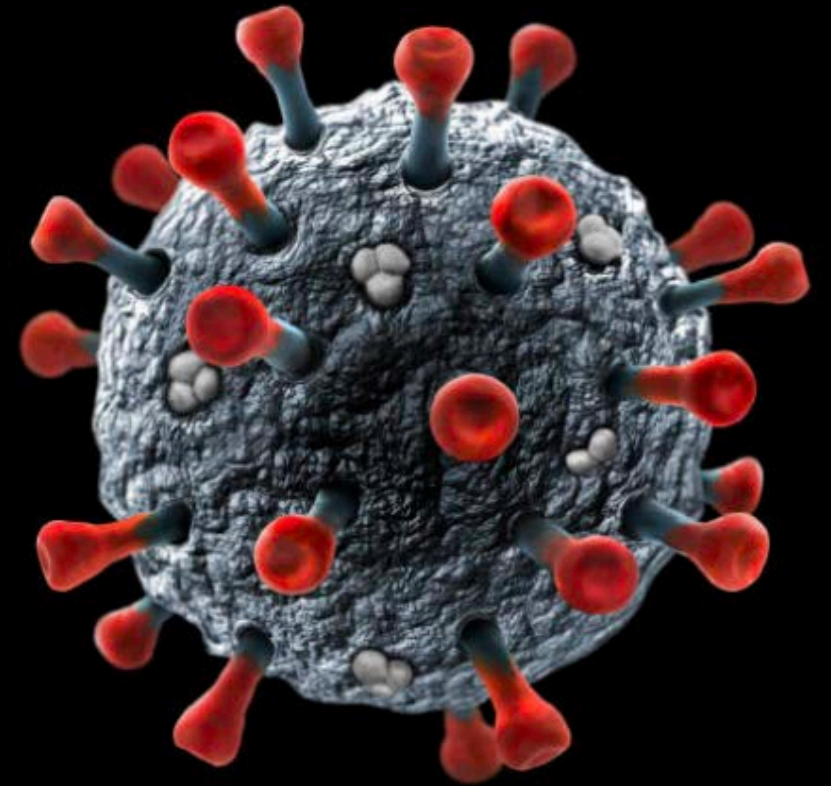
# Not Just a Women's Health Problem

Alyson J. McGregor MD



# Male Mortality

- Wuhan, China:  $\frac{3}{4}$  hospitalized
- Lombardy, Italy: 82% ICU
- NYC: male mortality all ages



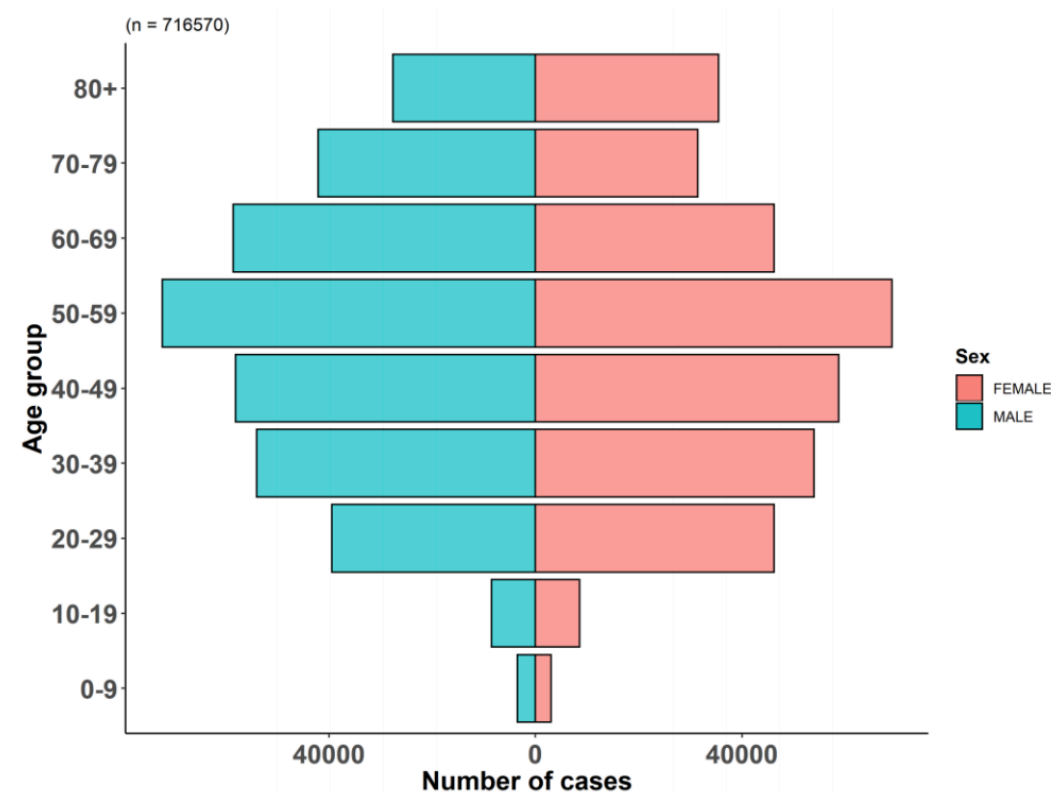
# Coronavirus disease 2019 (COVID-19)

## Situation Report – 89



Data as received by WHO from national authorities by 10:00 CEST, 18 April 2020

**Figure 2: Distribution by age and sex of confirmed COVID-19 cases reported to the WHO case-based surveillance system to date.**



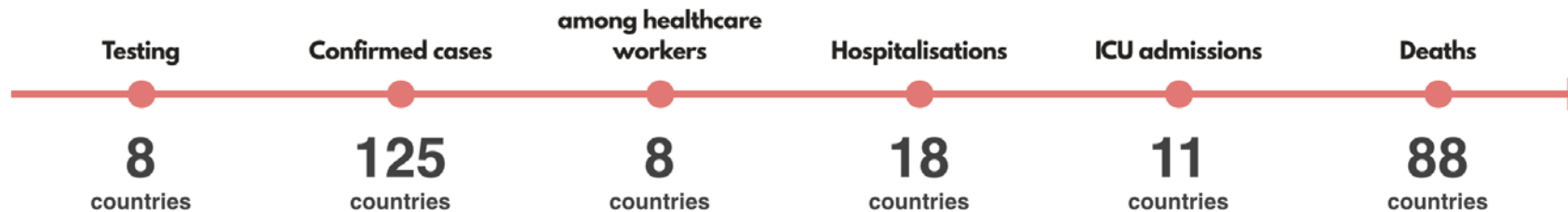
Source: COVID-19 global surveillance database



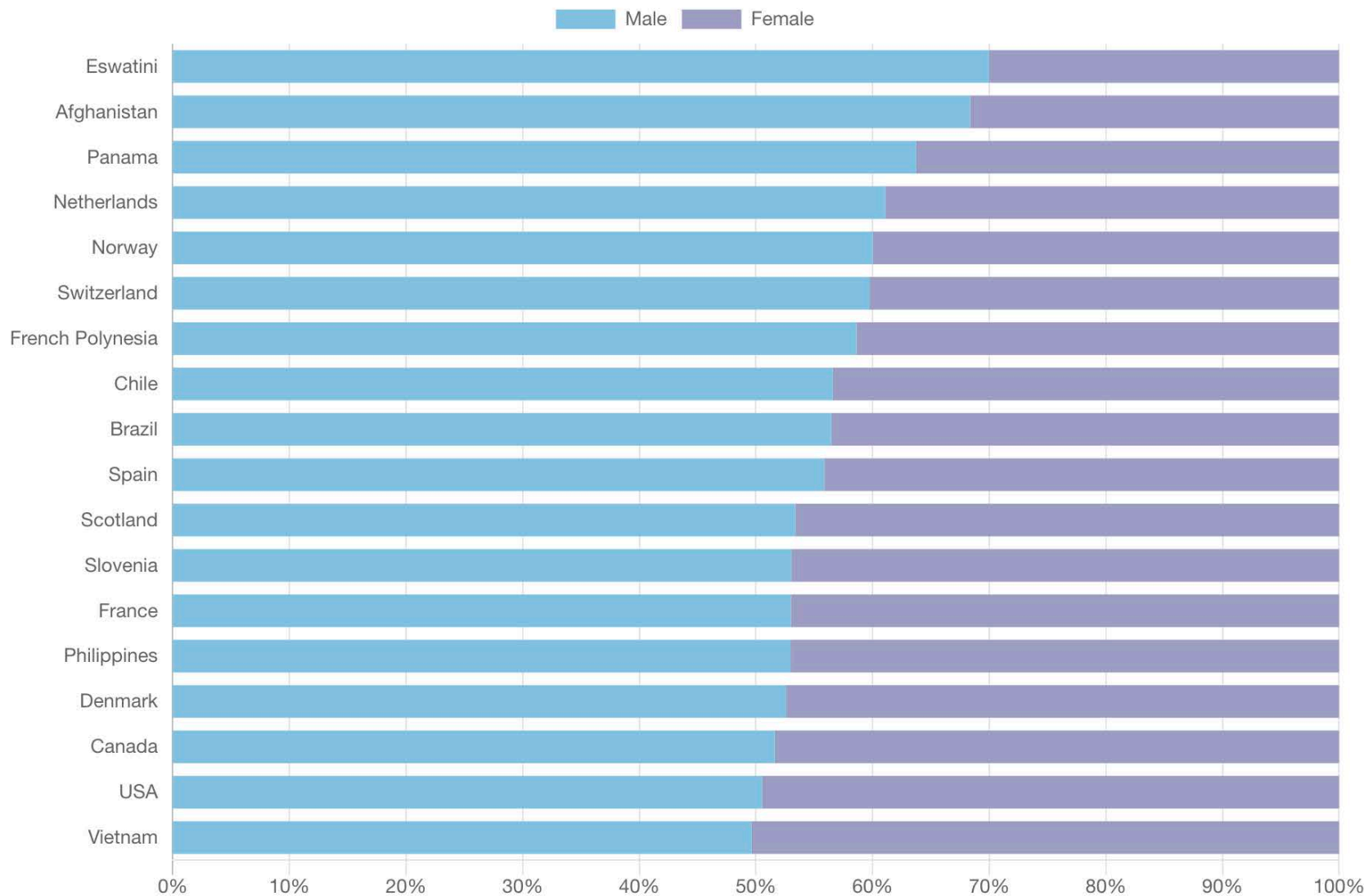
GLOBAL  
HEALTH5050

TOWARDS GENDER EQUALITY IN GLOBAL HEALTH

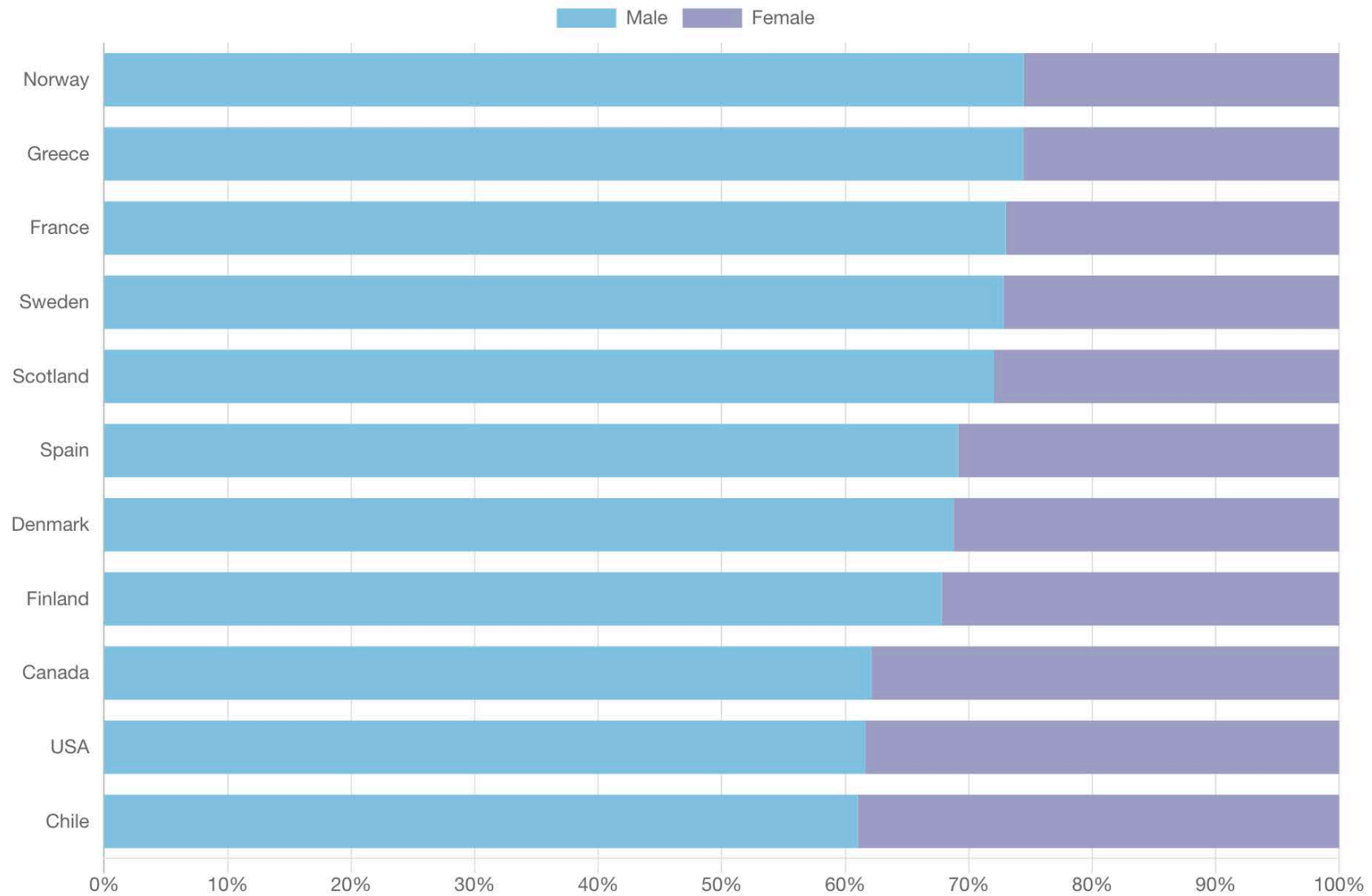
## Across 179 countries, how many have reported sex-disaggregated COVID-19 data?



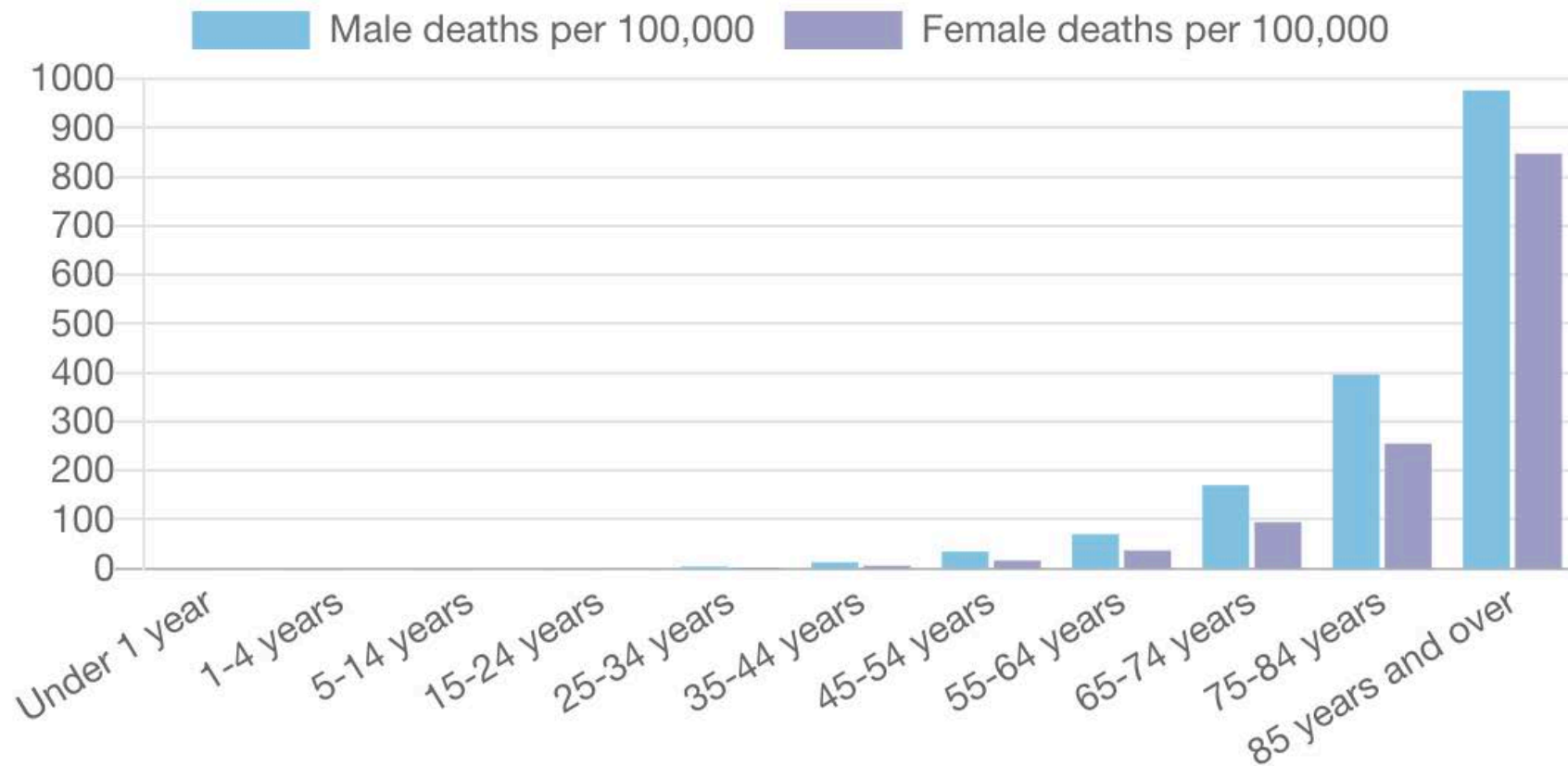
# Hospitalisations



# ICU admissions



# USA Deaths by Age and Sex







A 3D molecular model showing the SARS-CoV-2 spike protein (red) interacting with the ACE-2 receptor (blue) on a cell surface. The spike protein is a large, complex structure with multiple subunits. The ACE-2 receptor is a smaller, blue, globular protein. The interaction is shown as the spike protein binds to the ACE-2 receptor. The cell membrane is depicted as a lipid bilayer with orange heads and blue tails. Other yellow protein structures are visible on the membrane. Three red lightning bolt icons point towards the TMPRSS2 label.

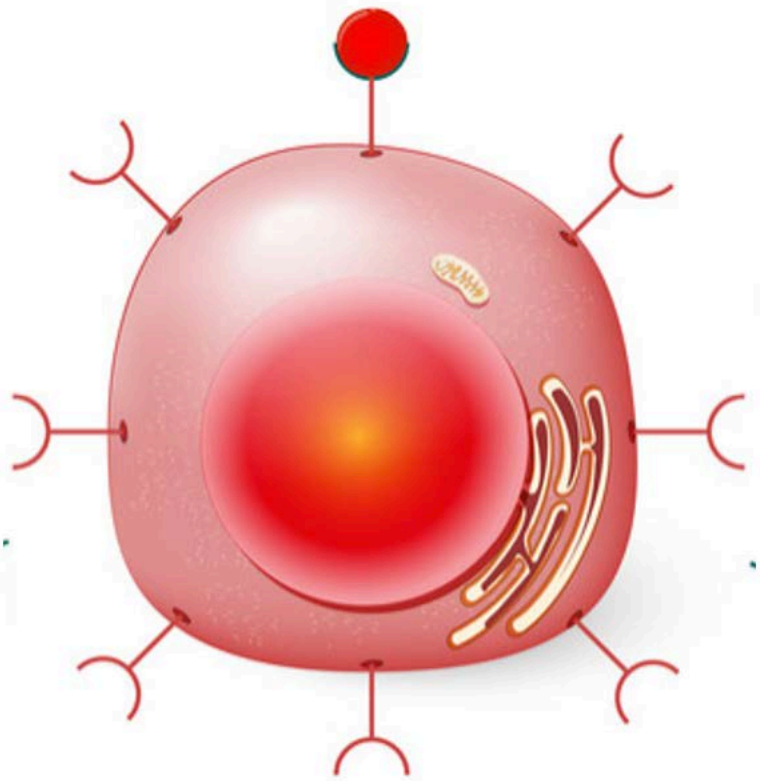
SARS CoV-2  
Spike Protein

⚡⚡⚡ TMPRSS2

ACE-2 R

# Hormone Action

## Androgens



## Advantages

- Increases muscle activity
- Improve lung capacity

## Disadvantages

- Upregulate TMPRSS2
- Male Pattern Baldness
  - Spain April 71%

# Prostate Cancer Research





# Androgen-Deprivation Therapy

## A protective treatment?

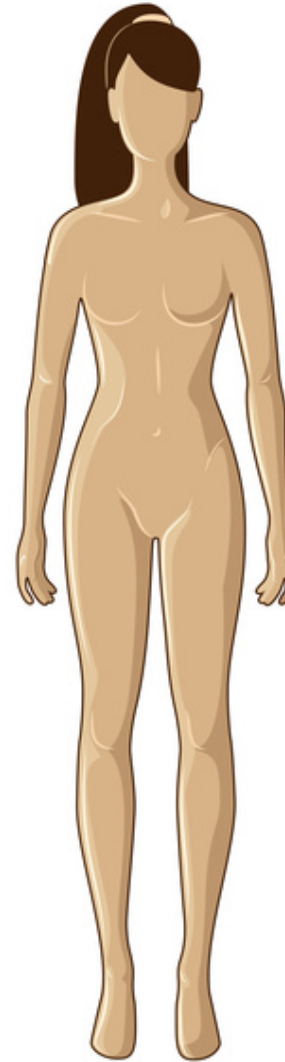
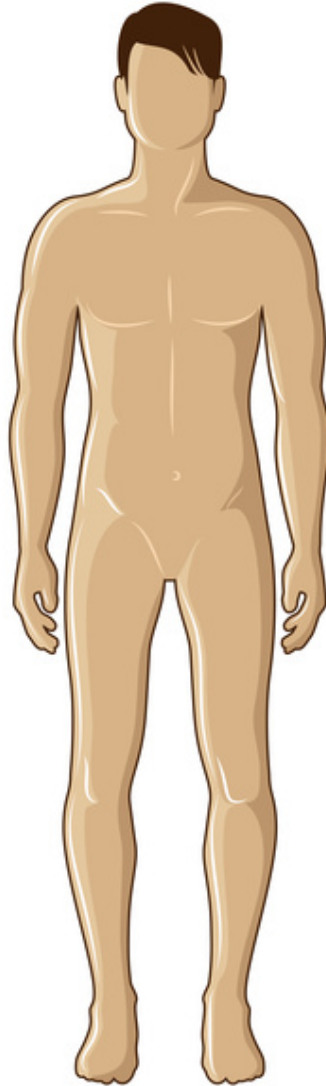
In one Italian study, men with prostate cancer who received drugs that suppress androgens were much less likely to be infected with SARS-CoV-2.

	Men on androgen-deprivation therapy (ADT)	Men not on ADT
Total men with prostate cancer	5273	37,161
Number infected with SARS-CoV-2	4	114
Estimated cases per 10,000	8	31

MONTOPOLI ET AL., ANNALS OF ONCOLOGY, [HTTPS://DOI.ORG/10.1016/J.ANNONC.2020.04.479](https://doi.org/10.1016/j.annonc.2020.04.479) (2020)

# Clinical Manifestations

Cough  
Fever



Anosmia  
Dysgeusia  
Fatigue  
Headache

**Asymptomatic – Respiratory Distress – MSOF - Death**



The NEW ENGLAND  
JOURNAL of MEDICINE

# Effect of Hydroxychloroquine in Hospitalized Patients with Covid-19

The RECOVERY Collaborative Group\*





The NEW ENGLAND  
JOURNAL of MEDICINE

# Remdesivir for the Treatment of Covid-19 — Final Report

ACTT-1 Study Group Members\*



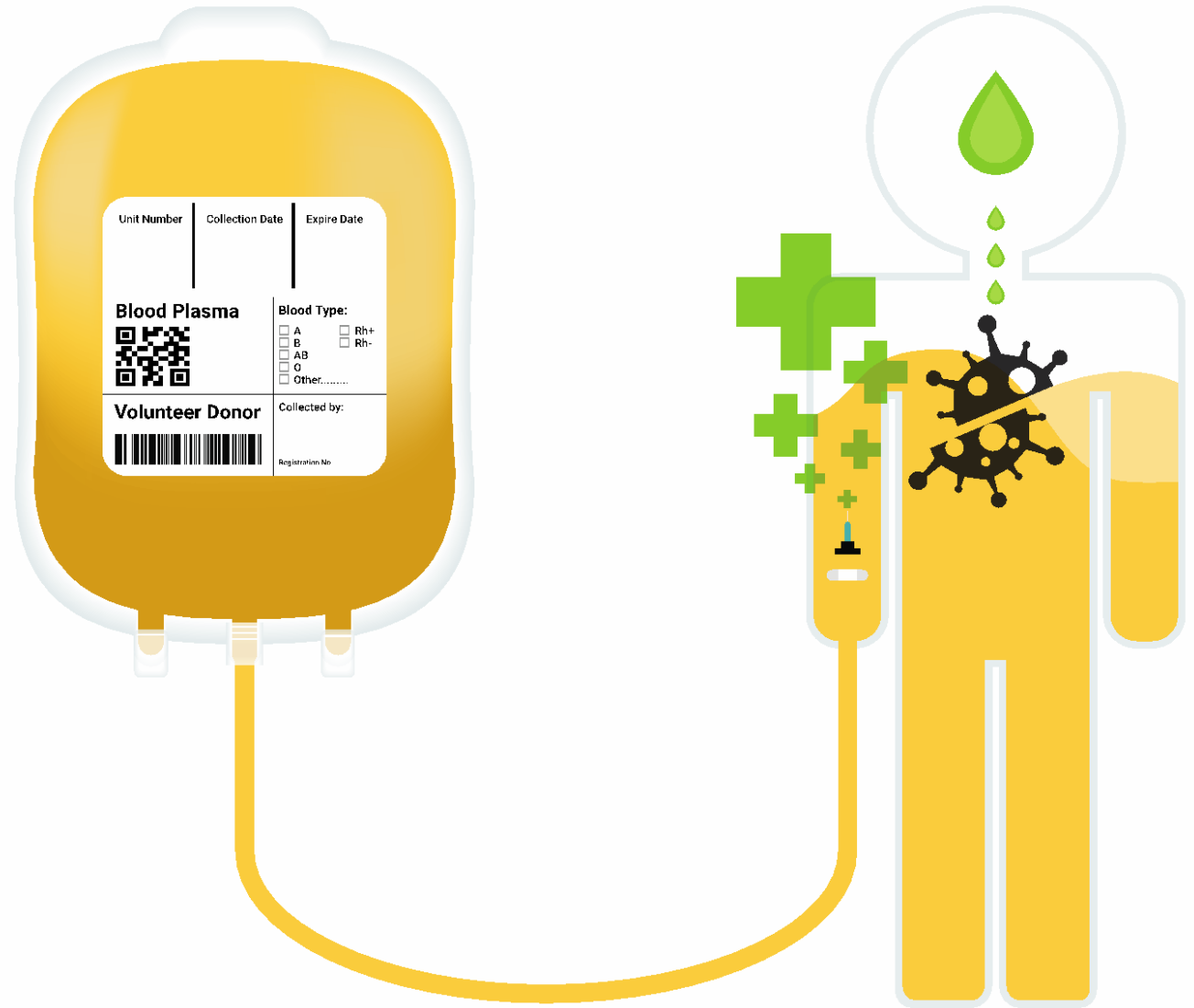
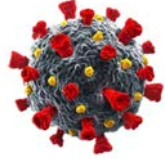
# Dexamethasone

ACTT-1 Study Group Members\*



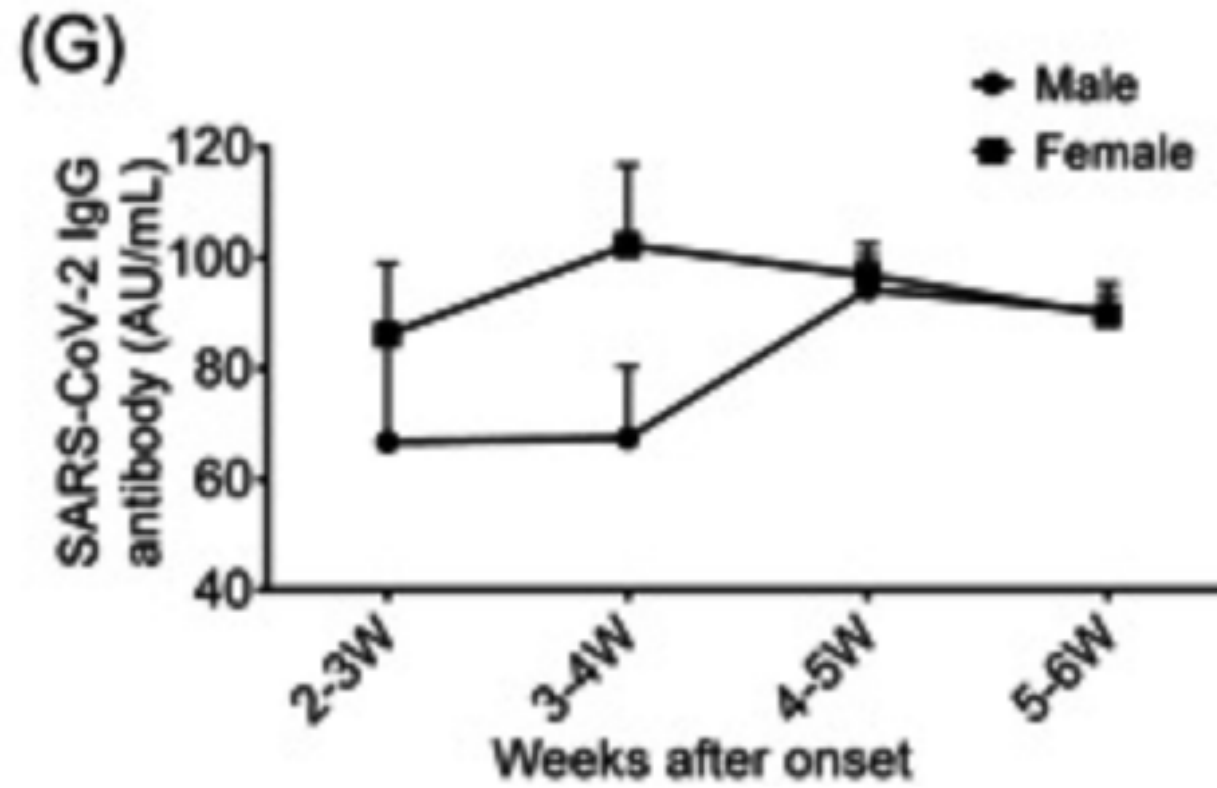


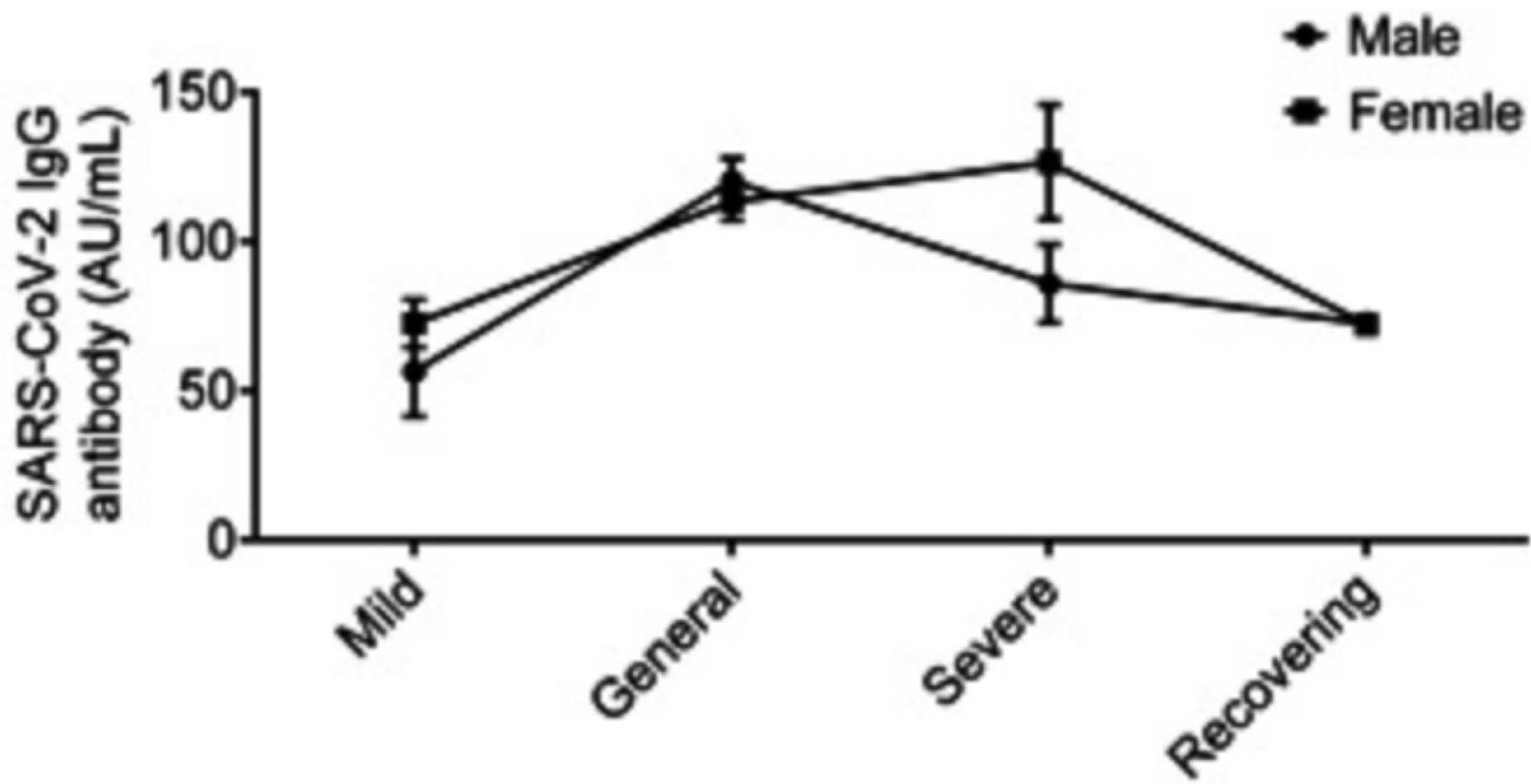
# Convalescent Plasma Donation



# A Comparison Study of SARS-CoV-2 IgG Antibody Between Male and Female COVID-19 Patients: A possible reason underlying different outcome between sex.

[J Med Virol. 2020 May 22 : 10.1002/jmv.25989.](https://doi.org/10.1002/jmv.25989)





# Vaccination



Exploratory, Pre-clinical Trials, NDA, 4 Phases Clinical Trials  
Approval: CDC & FDA

# Vaccination



Genetics, Environment, Race, Age, Nutrition, Microbiome, Sex



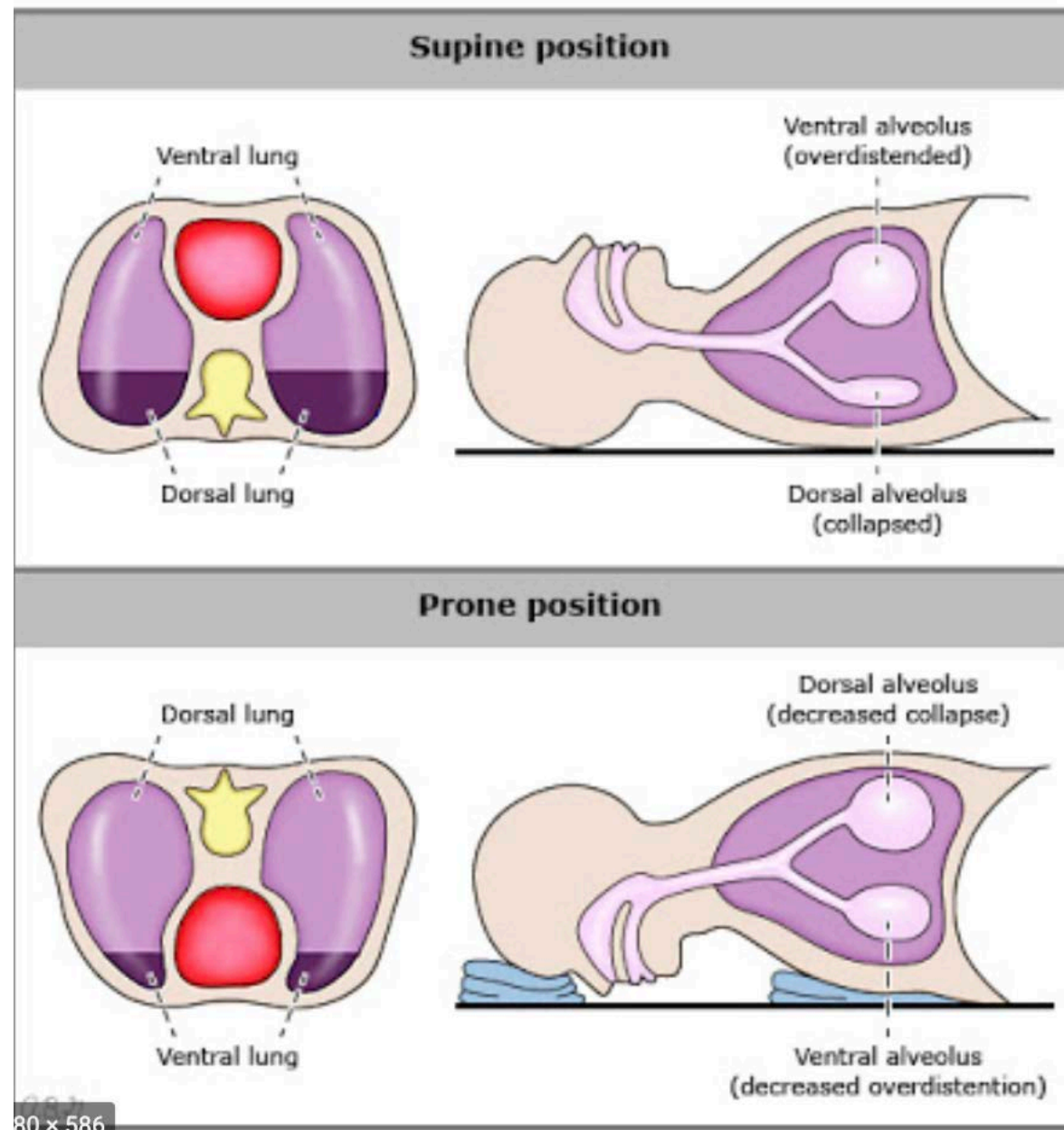
# Sex Differences in Vaccine-Induced Humoral Immunity

Influenza



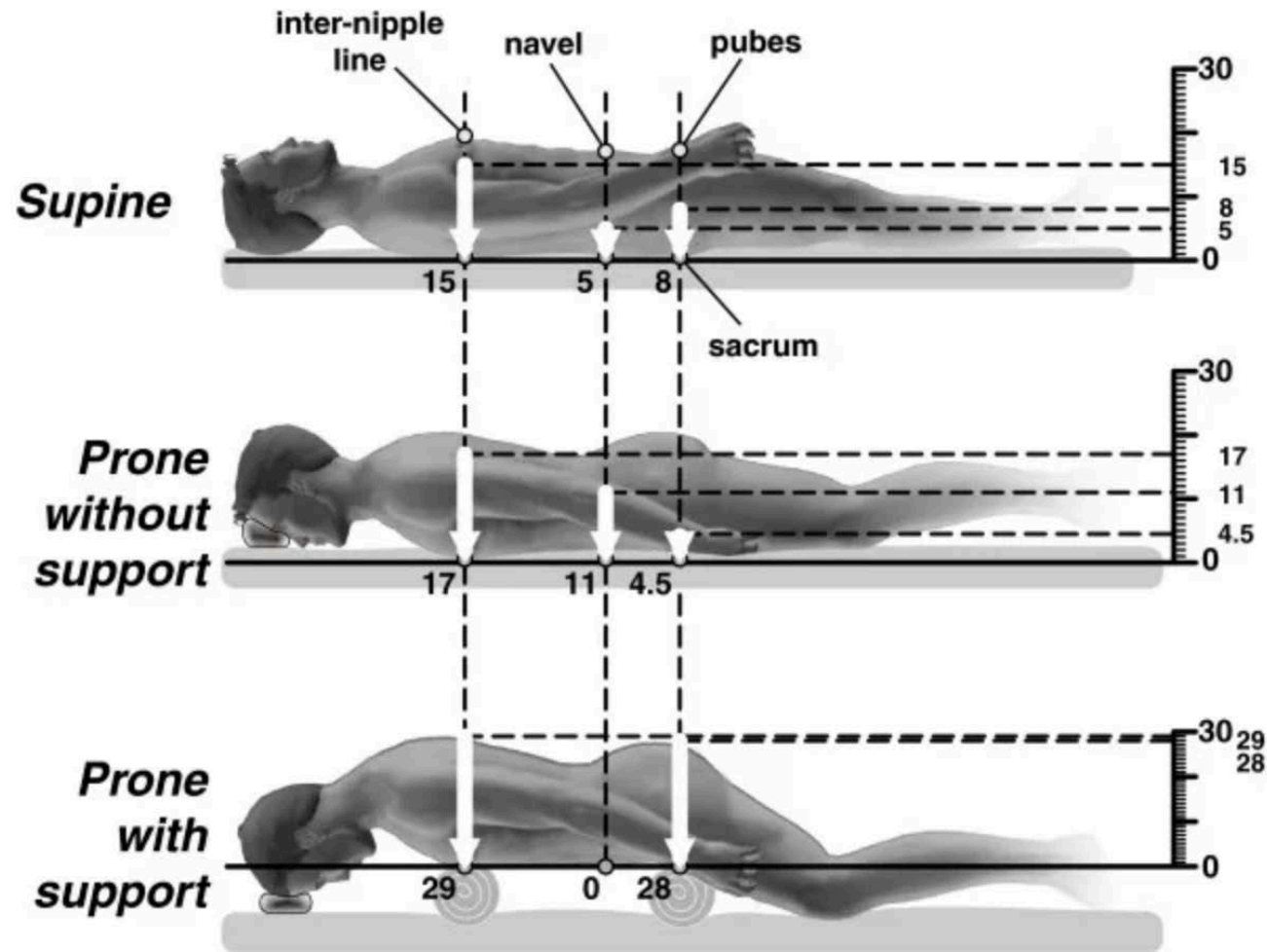
- ✓ Higher Magnitude Immune Response
- ✓ Lower Hospitalization and Mortality
- ✓ More Severe Adverse Events

# Prone Positioning for Refractory Hypoxemia





# Contact Pressure (cmH<sub>2</sub>O)









REF 441000



Not made  
with natural  
rubber latex



Single use



Do not use if  
package is opened  
or damaged

Made in China.  
Hampshire Street,  
048 USA.



1066038

5



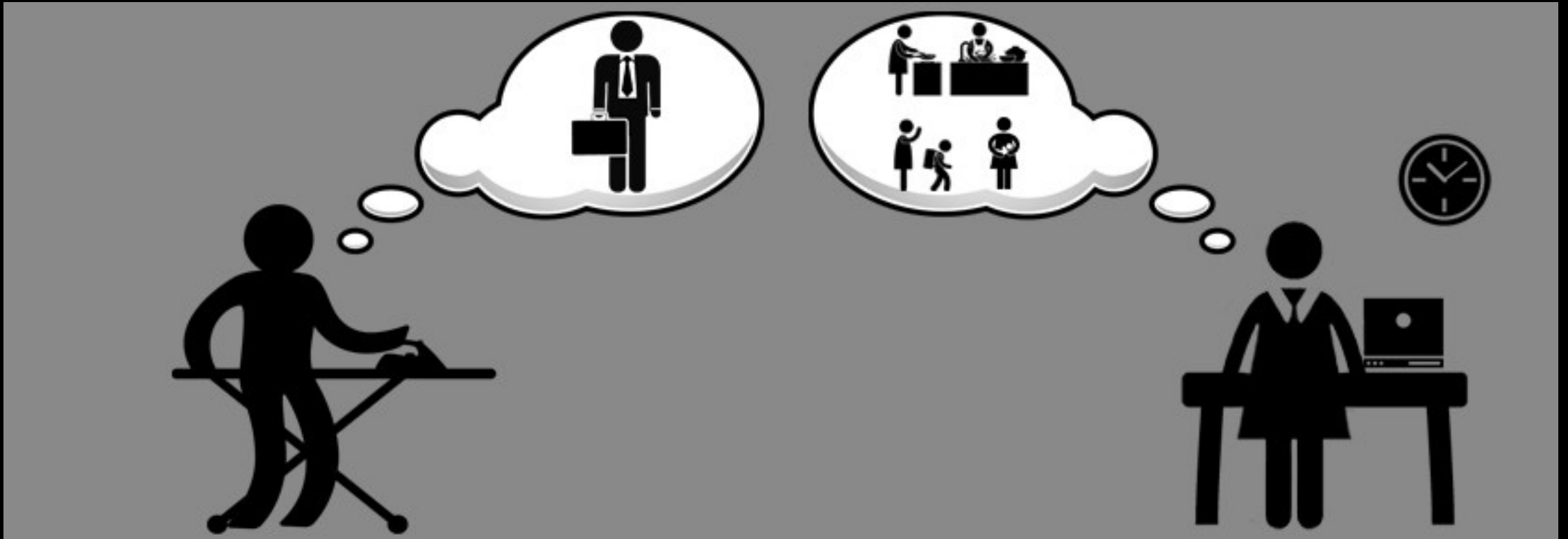





# Anthropometric Designs



# Sociocultural Behavior





# Do you really want to shake that hand?

	M	W
NOT Wash	15-69%	7%
NO Soap	35%	15%





**1. BEFORE  
WASHING**



**2. 'RINSE  
AND  
SHAKE'**



**3. SIX  
SECONDS  
NO SOAP**



**4. SIX  
SECONDS  
WITH SOAP**



**5. FIFTEEN  
SECONDS  
WITH SOAP**



**6. THIRTY  
SECONDS  
WITH SOAP**



# The Condoms of the Face: Why Some Men Refuse to Wear Masks

It's not the first time masculine ideology has driven resistance to a public health initiative





“Super-Spreaders”



# STAT

**Account for gender/sex to make personal protective equipment safer for women**

*By Saralyn Mark*

June 19, 2020



# Facemask Do's and Don'ts

For Healthcare Personnel

## When putting on a facemask

Clean your hands and put on your facemask so it fully covers your mouth and nose.



DO secure the elastic bands around your ears.



DO secure the ties at the middle of your head and the base of your head.

## When wearing a facemask, don't do the following:



DON'T wear your facemask under your nose or mouth.



DON'T allow a strap to hang down. DON'T cross the straps.



DON'T touch or adjust your facemask without cleaning your hands before and after.



DON'T wear your facemask on your head.



DON'T wear your facemask around your neck.



DON'T wear your facemask around your arm.

## When removing a facemask

Clean your hands and remove your facemask touching only the straps or ties.



DO leave the patient care area, then clean your hands with alcohol-based hand sanitizer or soap and water.



DO remove your facemask touching ONLY the straps or ties, throw it away\*, and clean your hands again.

\*If implementing limited-reuse: Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. Folded facemasks can be stored between uses in a clean, sealable paper bag or breathable container.

Additional information is available about how to safely put on and remove personal protective equipment, including facemasks:

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>.



[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

# Respirator On / Respirator Off

## When you put on a disposable respirator

Position your respirator correctly and check the seal to protect yourself from COVID-19.



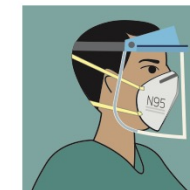
Cup the respirator in your hand. Hold the respirator under your chin with the nose piece up. The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears.



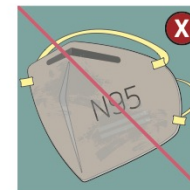
Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.



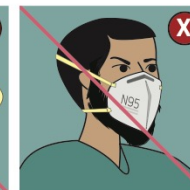
Place both hands over the respirator, take a quick breath in to check the seal. Breathe out. If you feel a leak when breathing in or breathing out, there is not a proper seal.



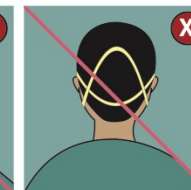
Select other PPE items that do not interfere with the fit or performance of your respirator.



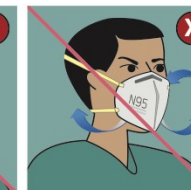
Do not use a respirator that appears damaged or deformed, no longer forms an effective seal to the face, becomes wet or visibly dirty, or if breathing becomes difficult.



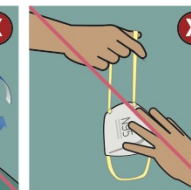
Do not allow facial hair, jewelry, glasses, clothing, or anything else to prevent proper placement or to come between your face and the respirator.



Do not crisscross the straps.



Do not wear a respirator that does not have a proper seal. If air leaks in or out, ask for help or try a different size or model.



Do not touch the front of the respirator during or after use. It may be contaminated.

## When you take off a disposable respirator



Remove by pulling the bottom strap over back of head, followed by the top strap, without touching the respirator.



Discard in a waste container.



Clean your hands with alcohol-based hand sanitizer or soap and water.

Employers must comply with the OSHA Respiratory Protection Standard, 29 CFR 1910.134, which includes medical evaluations, training, and fit testing.

Additional information is available about how to safely put on and remove personal protective equipment, including respirators:

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>

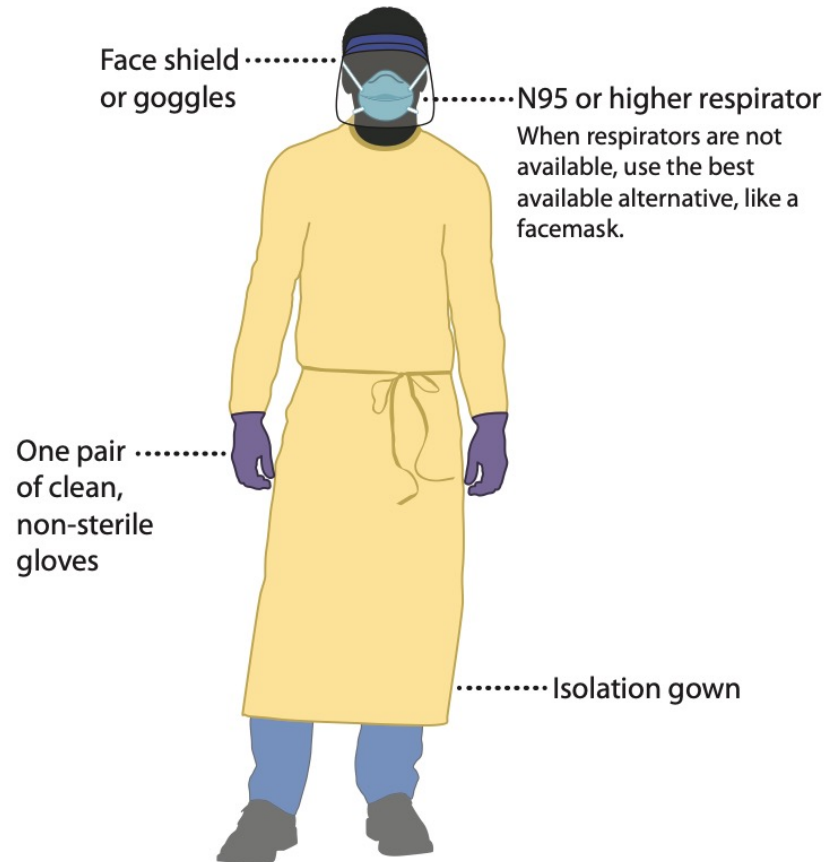


[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

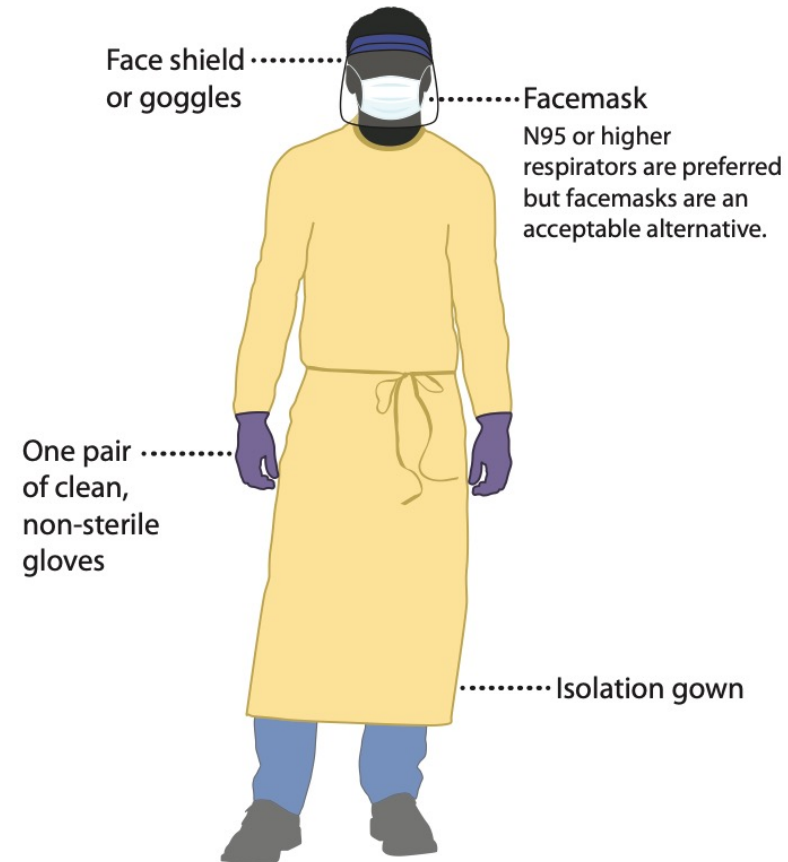


# COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

## Preferred PPE – Use N95 or Higher Respirator

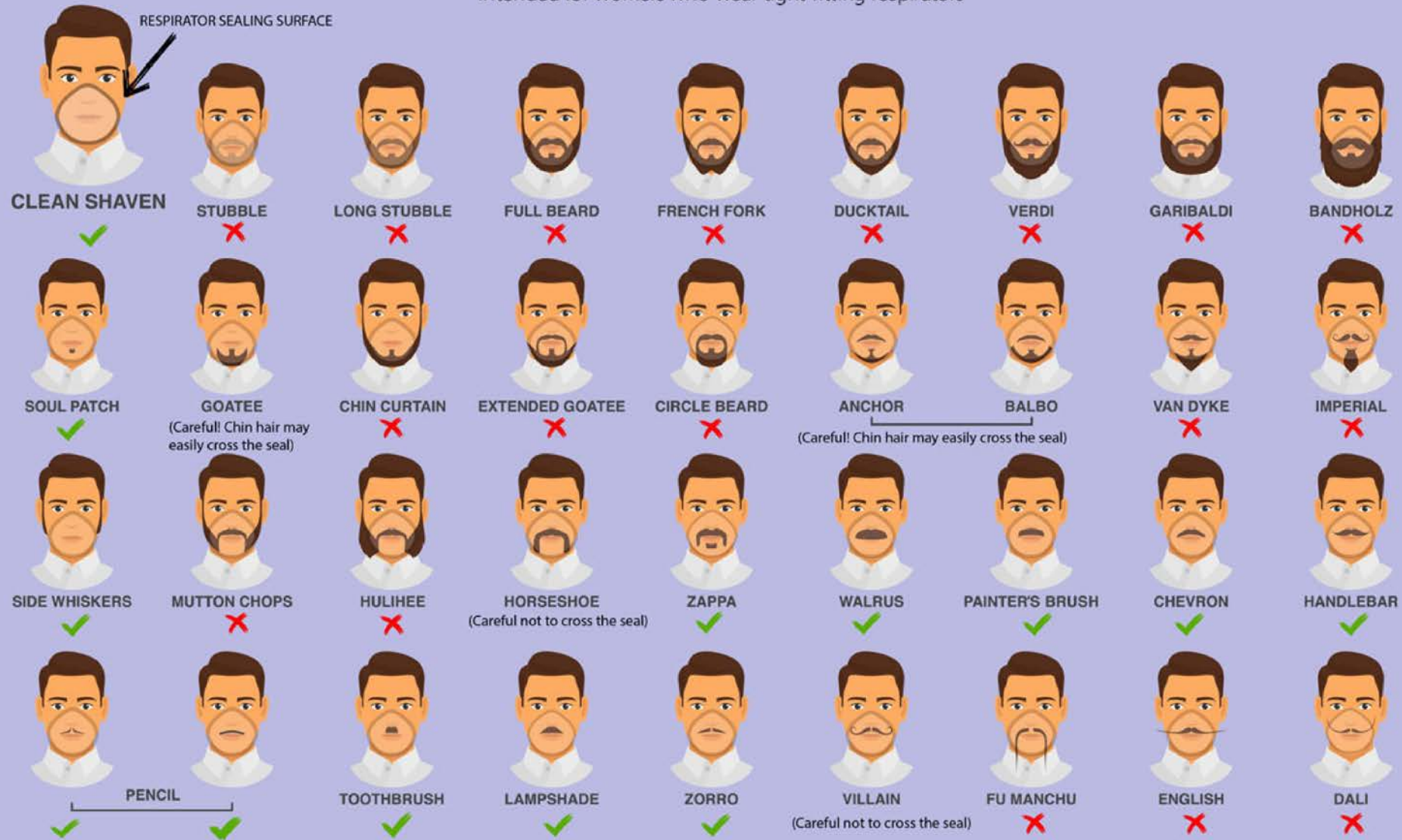


## Acceptable Alternative PPE – Use Facemask



# Facial Hairstyles and Filtering Facepiece Respirators

Intended for workers who wear tight-fitting respirators



Original image vector by fredrisher/Shutterstock.com

\*If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.

†This graphic may not include all types of facial hairstyles. For any style, hair should not cross under the respirator sealing surface.

Source: OSHA Respiratory Protection Standard

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=12716](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=12716)

Further Reading: NIOSH Respirator Trusted-Source Webpage

[https://www.cdc.gov/niosh/nppt/topics/respirators/disp\\_part/respsource3fittest.html](https://www.cdc.gov/niosh/nppt/topics/respirators/disp_part/respsource3fittest.html)



Centers for Disease Control and Prevention  
National Institute for Occupational Safety and Health





# Psychological Stress Against Women

- Stay-At-Home Orders
- Worsening Mental Health
- Intimate Partner Violence



# Long-Haulers





IF HISTORY REPEATS ITSELF  
I'M SO GETTING  
A DINOSAUR



# Lack of Consideration of Sex and Gender in Clinical Trials for COVID-19

medRxiv Preprint: Oertelt-Prigione. Netherlands 9.2020

## **Trials Registered: 2, 484**

- Mention s/g as recorded variable: 16.7%
- Allude to s/g in analysis: 4.1%



# Right Evidence at the Right Time

A detailed scanning electron micrograph (SEM) of a biological surface, likely intestinal villi. The image shows numerous elongated, finger-like projections (villi) that are densely packed and have a textured, slightly irregular surface. The base of these projections is connected by a network of fine, fibrous structures, possibly representing the underlying connective tissue or capillary network. The overall appearance is highly detailed and three-dimensional, with strong highlights and shadows that emphasize the texture and structure of the tissue.

Susceptibility  
Illness Severity  
Treatments  
Pharmaceuticals  
Vaccine Formation

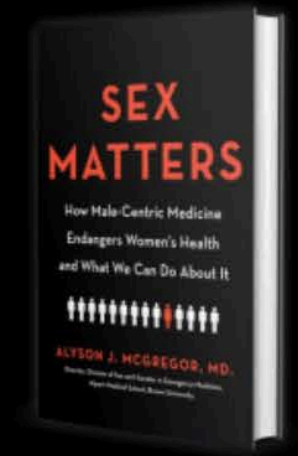


*Alyson J. McGregor, MD*

SEX & GENDER EXPERT, EDUCATOR & ADVOCATE

**“Enraging and clearly written, this book is a must-read for all women. . .”**

**—Maia Szalavitz, New York Times bestselling author of *Unbroken Brain***



**Website:** <https://www.alysonmcgregormd.com>

**Facebook:** Alyson McGregor, MD

**Twitter:** [mcgregormd](#)

**Instagram:** [mcgregormd](#)