# Wash Your Hands

The sun rises over the San Joaquin Valley, California, today is April 20, 2020.

During this time of reflection, we bring a difficult question for you: *Who are we as humans*?

The estimated ratio of human cell to microbe is at least 1:1, some people estimate it is 1:10, that is one human cell per one to ten microbes in our bodies(1). Based on that, we are at least half bacteria.

Also, water is the main component in the human body(2), between 80% at birth to 60% in an average adult. Based, on that, well, we are basically “dirty water,” but is that really the answer of who we are? Most certainly we are more than bacteria and water.

The understanding of who we are may go beyond the physical aspect of our bodies, and we may find more answers from different sources. We invite you to reflect on who you are. This is our food for thought to start our podcast today.

**“To avoid criticism, do nothing, say nothing, and be nothing.” – Elbert Hubbard**

A poet said, “Let the dogs bark, it is a sign that we are moving forward”, and I just learned that maybe this is not a quote from Don Quixote (sorry to disappoint you who like Don Quixote). But seriously, it is always difficult to receive feedback, however, it is a good way to improve ourselves. Today we have a star resident. She is loved for her spice and her compassion. Welcome Tamara Hilvers, known by her friends as Tammy. This podcast is an experiment, we will continue to improve over time. We ask five basic questions, but I may surprise you with another question to make it more spontaneous. Don’t worry it will be easy.

1. **Question number 1**: Who are you?

I always hate these types of questions where I have to talk about myself. So, who am I? Well, I was born and raised right here in Bakersfield, CA, I grew up on a dairy farm and I am 1 of 4 girls! A few interesting facts about me: I know and hold a degree in American Sign Language; I took Calculus and Physics courses in undergrad for the fun of it, and I am actually very shy! My greatest achievement in life thus far is being a single mother and raising a sweet and beautiful, both inside and out, 12-year-old daughter. As if single motherhood wasn’t challenging enough, I made, what some may call a crazy, the decision to pack the two of us up, 2 months after she was diagnosed with epilepsy, to attend medical school on a small Caribbean Island. I am currently nearing the end of my first year of Residency with the Rio Bravo Family Medicine Program. I remember when I first started, everyone said that my first year would fly by… Yeah, they lied. But, I am looking forward to continuing this journey and can’t wait to see what the next year brings!

**Comment: We have enjoyed working with you. You are a smart woman with a big heart.**

1. **Question number 2**: What did you learn this week?

This week, I looked into America’s #1 topic today, hand hygiene. Washing your hands is the best way to protect yourself and others from getting sick and to stop the spread of ‘germs’. I looked into the **‘when’, ‘how’** and the **‘with what’** of hand hygiene.

So, the **‘when’**. When should we wash our hands? Always! Always wash your hands! It’s that simple. Many of us all know that we should wash our hands after things such as: preparing food, treating a wound, caring for someone who is sick, after using the restroom, touching animals or even touching garbage. However, during this pandemic we are experiencing, the CDC is also reminding people to wash their hands after being in public, after touching public surfaces that are frequently touched by others, such as door handles, shopping carts and gas pumps, and always before touching your eyes, nose or mouth.

Now the **‘how’**. What is the proper way to wash your hands? Well, if washing your hands with soap and water, there are 5 easy steps to follow: wet, lather, scrub, rinse, and dry. First you need to wet your hands with clean, running water before applying the soap. Then, you should lather the soap by rubbing your hands together making sure to get the back of the hands, between fingers and under the nails. You should continue to scrub your hands for at least 20 seconds. On the CDC website, they suggested humming the ‘Happy Birthday’ song two times through. I say, just count to 20. Either way, whatever your preference, continue for 20 seconds, then rinse off hands under clean running water. Hands should then be dried using a clean towel or air dried.

Now, if you are using an alcohol based disinfectant, you should apply the product to the palm of one hand and then rub both hands together, covering all surfaces, until hands are dry. This process should take 15-20 seconds.

Comment: Water temperature is irrelevant, we know warm water feels nicer, but it is not required(3). Make sure you scrub all surfaces like Dr Hilvers said, we usually miss the back of our hands and lower aspect of our palms. Ok, what should we use to wash our hands?

Last, the **‘with what’**. What’s better, soap and water or alcohol based disinfectant? According to the CDC, they recommend that the general population use hand sanitizer only when soap and water are not available.

Even though sanitizers can quickly reduce the number of germs on your hands, it does not kill all the germs, it does not remove harmful chemicals and it may not be effective when hands are visibly dirty. However, when it comes to healthcare providers, alcohol based disinfectants are favored over soap and water unless dealing with a patient with infectious process such as C. diff or norovirus as alcohol does not kill the spores.

As far as which soap to use, liquid, bar or powdered forms are all acceptable, with none having preference over the other. When bar soap is used, they suggest using small bars and soap racks to allow drainage.

Comment: Wet soap bars can grow bacteria, that’s one of the reasons for the defenders of liquid soap, but any soap is better than no soap

In 2016, the FDA stated that there is no added health benefit using *antibacterial* soaps(5). So plain soaps are acceptable.

Drying hands should be done with disposable towels or air dried. Multiple use hand towels are not recommended.

Alcohol based disinfectants should contain at least 60% of alcohol.

Comment: What if we do not have any soap or hand sanitizer? Use plain water. Washing with plain water will wash off some bacteria, not as many but some of it. Remember the size of the viral inoculum can make a difference on the severity of many viral illnesses. The larger the size of the inoculum, the more severe the illness is.

1. **Question number 3**: Why is that knowledge important for you and your patients?

Hand Hygiene is important because it is the single most important measure to reduce the transmission of microorganisms from one person to another, or from one site to another. It will protect yourself and your patients from potentially deadly germs. Hand Hygiene should be performed before and after every patient contact. It is also important to note, that wearing gloves does not replace the need to wash hands properly.

1. **Question number 4**: How did you get that knowledge?

Hand Hygiene has been instilled in all of us from the first day of medical school and every day since. When taking STEP 2, the Clinical Skills portion of the exam, hand hygiene is an important part of the patient encounter. This is stressed in every review book as well as online practice exams. We all know the importance of hand hygiene, however, all of us are guilty of skipping this process a time or two.

It is very important to make hand hygiene a routine in patient care. To help me get the proper techniques of hand hygiene and the most current recommendations, I reviewed several articles from reliable sources such as the CDC and Up-to-Date.

Hand hygiene is very important in the field of medicine and think that it is important to stay on top of the most current recommendations, not only for our own practice but also to help educate others.

1. **Question number 5**: Where did that knowledge come from?

This information was obtained from “Hand Hygiene for Healthcare Providers” downloaded from the CDC website and “Infection prevention: Precautions for preventing transmission of infection” on Up-to-Date.

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**Speaking Medical** (Medical word of the week)
by Steven Saito

Did you know that 3% of the population in the United States (that’s more than 3 million people) can’t smell? So, some couples actually don’t fight over farts… because one of them suffers from *anosmia. Anosmia* is certainly not funny for those who suffer from it, as it may cause social withdrawal, depression, and weight loss. Weight loss may be positive for some people.

*Anosmia* can also pose a risk to safety when there is inability to detect the odors of spoiled nasty food, smoke, and leaking gas, both natural and from your pipes. *Anosmia* can also be a symptom in 20-35% of people with COVID-19.

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**Espanish Por Favor** (Spanish Word of the week)by Hector Arreaza

“Doctor, tengo mareos, estoy mareado”. *Mareo* is a common complaint in our clinic. The word *mareo* comes from the Latin “mare” which means “mass of water”. In Spanish the ocean or sea is called “mar”, and *mareo* likely comes from the feeling people experience while on a ship. The translation of *mareo* to English is challenging, as it encompasses a variety of symptoms and conditions.

*Mareo* is used by patients to describe dizziness, but it also includes other symptoms such as motion sickness, vertigo, pre-syncope, syncope, lightheadedness, and even generalized weakness. *Mareos* can be a real challenge in diagnosis, but my goal today is to teach you the Spanish word of the day, *mareo.* Your homework is to go and study the workup and treatment for your dizzy patients.

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**For your Sanity** (Medical joke of the week)
by Steven Saito and Lisa Manzanares

---Doctor, I got a heartburn every time I eat birthday cake
---Next time, take off the candles.

---What’s the difference between a family doc and a specialist? The family doc treats what you have, the specialist thinks you have what he treats.

Two doctors and an HMO manager died and lined up at the pearly gates for admission to heaven. St. Peter asked them to identify themselves.
One doctor stepped forward and said, "I was a pediatric spine surgeon and helped kids overcome their deformities." St. Peter said, "You can enter."
The second doctor said "I was a psychiatrist. I helped people rehabilitate themselves." St. Peter also invited him in.
The third applicant stepped forward and said, "I was an HMO manager. I got countless families cost-effective health care."
St. Peter said, "You may enter, but," he adds, "You can only stay three days. After that you go to h---.”

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Now we conclude our episode number 8, “Wash Your Hands.” Dr Hilvers taught us how to perform a simple task that can protect you, your patients, your family, and even your community. Washing your hands continues to be one of the most useful ways to prevent the spread of COVID-19. *Mareo* means dizziness among other symptoms, but you get the idea, and *anosmia* was a reminder that COVID-19 may present with a loss of sense of smell. May you continue to enjoy your training, stay safe and see you next week.

This is the end of Rio Bravo qWeek. We say good bye from Bakersfield, California, a special place in the beautiful Central Valley of California, United States, a land where growing is happening everywhere. If you have any feedback about this podcast, contact us by email RBresidency@clinicasierravista.org, or by visiting our website riobravofmrp.org/qweek. This podcast was created with educational purposes only. Visit your primary care physician for additional medical advice. Our podcast team is Hector Arreaza, Tammy Hilvers, Lisa Manzanares, and Steven Saito. Audio edition: Suraj Amrutia. See you soon!

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References:

1. Abott, Alison, “Scientists Bust Myth That Our Bodies have More Bacteria than Human Cells,” nature international weekly journal of science, <https://www.nature.com/news/scientists-bust-myth-that-our-bodies-have-more-bacteria-than-human-cells-1.19136>, January 8, 2016.
2. “The Water in You: Water and the Human Body,” United States Geological Services, <https://www.usgs.gov/special-topic/water-science-school/science/water-you-water-and-human-body?qt-science_center_objects=0#qt-science_center_objects>, accessed on April 16, 2020.
3. Brenda Goodman, MA, The Power of Hand-Washing to Prevent Coronavirus, March 06, 2020, <https://www.medscape.com/viewarticle/926373?src=soc_fb_200310_mscpedt_news_mdscp_handwash&faf=1>, accessed March 9, 2020.
4. Anderson, Deverick J, “Infection prevention: Precautions for preventing transmission of infection,” Up to Date, <https://www.uptodate.com/contents/infection-prevention-precautions-for-preventing-transmission-of-infection?search=hand%20washing&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1> , accessed on April 16, 2020.
5. “Antibacterial Soap? You Can Skip It, Use Plain Soap and Water,” U.S. Food and Drug Administration, <https://www.fda.gov/consumers/consumer-updates/antibacterial-soap-you-can-skip-it-use-plain-soap-and-water>
6. Burton, Maxine; Emma Cobb, [...], and Wolf-Peter Schmid, “The Effect of Handwashing with Water or Soap on Bacterial Contamination of Hands,” Published: 6 January 2011, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3037063/>
7. The Raging Idiots, <https://www.youtube.com/watch?v=Ze8TtIITxqE>