

# STANDARD DEVIATIONS: Standards Matter

Greetings,

Did you know we have two feet?

I mean, did you know the United States uses two different lengths for the measurement we know as a “foot”?

On December 31, 2022 we'll toss one out and settle on a standard definition. We kick out the “U.S. Survey foot” that has been around since 1893 and formally adopt the National Institute of Standards and Technology (NIST, the old National Bureau of Standards, NBS) unit. We've been **using both since 1959**.

Most states mandate the use of the old “U.S. survey foot” for their state coordinate systems, which allow surveyors to take into account Earth's curvature in their measurements. A few states mandate the use of the new (1959!) standard foot. A handful do not specify which of the two feet should be used, some use a combination.

It may not seem like much; the NIST foot is 0.9999998 the value of the “U.S. Survey foot”, or 0.12 inches/mile, but little things add up. The difference between the two standard definitions can result in large direction and position location errors over substantial distances. Think State borders, air space, roads, and infrastructure. Mountains of records will be changed, ever so slightly, to adjust to the single standard.

But, you know what? Now we can all agree. That's what a standard does; it brings all our beliefs about something together, so we all get the same result. Standards allow us to speak the same language about things.

Think about what can happen if you're using a different standard when a CAP proficiency comes?

Or consider the lowly **Standard Operating Procedure (SOP)**. How many deviations from the right SOP ever work out? We standardize to make things work better, right? Standard Operating Procedures are the standards we apply to our testing that ensure consistency, precision, and accuracy. They are also vital to our safety.

Biosafety requires adherence to standards. We follow **Standard Precautions** to protect ourselves and prevent the spread of infections to patients and other HCW. Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered.



Standard Precautions include —

1. Hand hygiene.
2. Use of personal protective equipment (e.g., gloves, masks, eyewear).
3. Respiratory hygiene/cough etiquette.
4. Sharps safety (engineering and work practice controls).
5. Safe injection practices (i.e., aseptic technique for parenteral medications).
6. Sterile instruments and devices.
7. Clean and disinfected environmental surfaces.

Following standard practices keeps us all together on the same page, speaking the same language, with biosafety.

Standards matter. They matter to the foods we eat, the medicines we take, communication, electronics, transportation, weights and measures, you name it; if it matters - we standardize it. Anyone who has had to troubleshoot Levy-Jennings outliers or programmed an ISI into the INR calculation of Prothrombin Time (PT) assay knows that standards matter. The ever so slight difference between two standard definitions can result in large errors over time and with critical consequence.

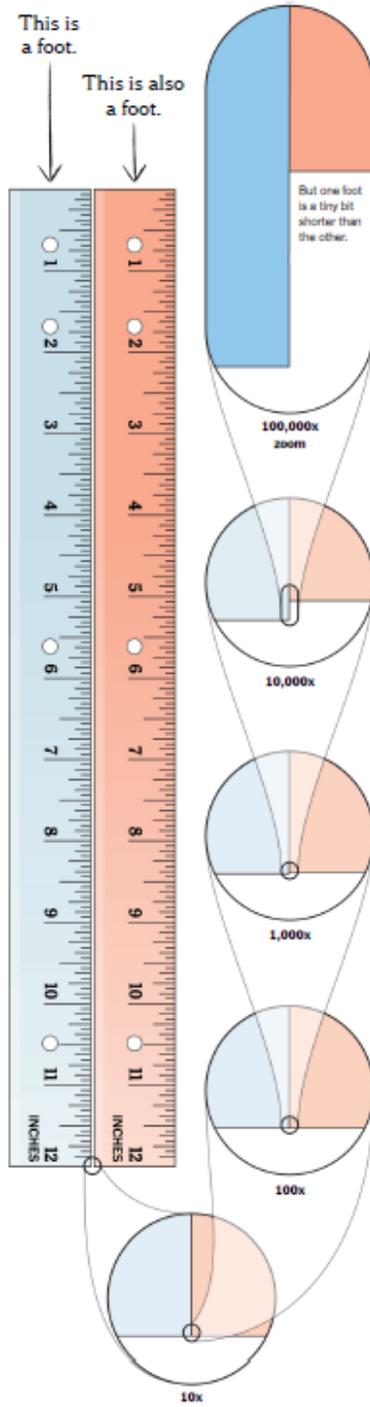
Our safety standards are the defined and accepted best practices to date. When we realize that we can be more consistent, more precise, or more accurate in how we practice safety, then the standard will adjust, accordingly. Hopefully, we don't take decades to change.

Have a great week and be safe,

Bryan

p.s. The “fixing” or defining the standards of weights and measures is intrinsic to ensure uniform measurement across the U.S., as well as with the rest of the world. **In 1866, Congress acted to make the metric system of measurement (now known as the International System of Units (SI)) legal for use in the United States.** A century and a half later, we are finally settling on a standard measurement of the “foot”.





{The “U.S. Survey foot” left, and NIST foot on right}

