

# STANDARD DEVIATIONS: Risk Changes

Greetings,

Okay, you know my spiel. Preparedness, risk assessment, mitigation, and PPE. If you haven't heard me in person, then you've probably seen it here. I preach a pretty good sermon.

Reality? Well, I guess nobody's perfect.

Yesterday (Sunday, 5/18/20) we ran a thousand COVID-19 tests in the UPHL lab. I'm all about safety in the lab, so people are wearing PPE (double gloves, front-closed gowns, and face shields), working in the Biosafety Cabinet, and disinfecting constantly with bleach and 70% ethanol. Here we practice biosafety because we understand that SARS-CoV2 poses a novel risk to everyone. In the lab (mine and yours) we assess risk, evaluate the pathogen and the procedures, and mitigate with controls (BSC, PPE, disinfection, etc.).

This is me at work:



{Dressed to not-be-killed?}

And then I went home and worked in the garden... And this happened:





{Roses are red, and so is blood.}

In my defense (*and this is where we find out if this excuse has any more traction with this audience than it did with the boss*), I **am** wearing PPE.

My PPE is not sufficient for the risk at hand (or arm). I'm suffering from a misjudgment of risk, a lack of preparedness, and poor mitigation.

To be fair, I had started this task at the other end of the garden, weeding the peas, where the PPE in use was adequate. When I got to the rose, I **failed to understand that risk had changed** and my mitigation strategy was no longer valid. And, instead of re-assessing the situation and enhancing my safety, I just kept using the same PPE!

Lucky for you (not so much for me) I realized that this is the kind of lesson we can learn from, and apply to our safety paradigm in the lab.

Risk in the lab changes. Pathogens come to the bench in sneaky ways. The emergence of a new organism (like SARS-CoV2) is obvious, but every sample poses risk. Bloodborne pathogens are a constant and ever-present threat. We work with organisms and chemicals that need only a brief lapse in attention to cause us harm.



We need to understand that risk changes and be prepared to recognize when a mitigation may not be protecting us like we thought.

This recognition can be as simple as realizing when to change gloves. But, there are other scenarios that require a fresh look at the risks involved and decisions about escalated response. A broken tube in a centrifuge, a spill of strong acid or base, unusual findings in the growth of an organism, all point to new risk that may put us in danger without a change in our understanding. An outpatient UA is not as risky as plating a positive blood/wound culture, or cleaning up a broken tube in a centrifuge. One task is safe on the open bench, one may need to be done in the BSC, and one may need a mask and sharps precautions. Weeding the peas is not as risky as trimming the rose bushes.

Being safe and staying safe in the lab means knowing that risk changes, knowing when to assess risk, and knowing that changing our behaviors and mitigations will be necessary.

Have a great week and be safe,

Bryan

In the case of coronavirus, we are dealing with an organism that is novel to the population and still not well understood. The new assays and handling of samples need to be looked at with fresh eyes and minds. At UPHL, we're treating the virus with an abundance of caution. As the testing becomes ubiquitous, we'll need to assess the risks involved, carefully.

