

STANDARD DEVIATIONS: To Resolve Risk We must be Resolute

Greetings,

Risk is real, unambiguous, and undeniable. Risk tolerance is not.

Risk tolerance is conceived, ambiguous and deniable. Risk is not.

Sharps are risky. So we use sharps containers and tongs and never re-cap needles.

Strong acids and bases are risky. So we separate them and store them securely and handle them with care and special PPE. We follow a Chemical Hygiene Plan.

Bloodborne viral pathogens are risky. So we wear PPE and disinfect and follow a Bloodborne Pathogen Plan.

Aerosolized pathogenic organisms are risky. So we move from the open bench to the biosafety cabinet, or even send them off to the Lab Response Network (LRN) because they're too risky.

The risks associated with these common laboratory issues are accepted facts. How we respond to these risks is subjective.

We look at risk, scratch our heads and make a call about how much of that risk we are willing to bite off, ignore, or mitigate. That's risk assessment.

We don't argue about the existence of risk, we argue about how we deal with it.

For every risk in a laboratory procedure, we ask two questions:

- How likely is this risk to occur, and
- What is the consequence if it does?

Then our subjective brains make a decision about that risk and we choose a way to make us feel better about the risk.

Our risk assessments looks at each risk and how we tolerate them. Some we can handle with consistent technique and procedure. Some we handle with barriers and engineering, and some are just too dangerous to deal with in the lab.

However we choose to address a risk, we stick by it. The significant element of laboratory risk is our consistent response.



Here is what it looks like in a graphic image:

RISK MATRIX		Consequence				
		Minimal: Hazard or near miss requiring reporting and follow up action	Minor: Potential First Aid injury	Moderate: Potential Medical Treatment Injury or illness	Major: Potential Lost Time Injury, non-permanent disability	Severe: Potential Fatality or Injury or illness with permanent disability
Likelihood	Rare: May happen only in exceptional circumstances	LOW	LOW	LOW	LOW	MEDIUM
	Unlikely: Could happen at some time	LOW	LOW	MEDIUM	MEDIUM	HIGH
	Possible: Might occur occasionally	LOW	MEDIUM	HIGH	HIGH	HIGH
	Likely: Will probably occur in most circumstances	LOW	MEDIUM	HIGH	HIGH	EXTREME
	Almost Certain : Expected to occur in most circumstances	MEDIUM	HIGH	HIGH	EXTREME	EXTREME

LOW	Risk is tolerable; manage by well-established, routine process/procedures
MEDIUM	A Control Plan must be developed; existing controls need to be reviewed. Target resolution (ideally reduction to low level of risk) should be within 6 months.
HIGH	A “high” risk may also require immediate assessment and senior staff consideration; a Control Plan must be developed; regular monitoring and reported on to the relevant management/steering committee. Target resolution (ideally reduction to low level of risk) should be within 3 months.
EXTREME	An “extreme” risk requires immediate assessment and senior staff consideration is required; a detailed Control Plan must be developed, and consideration should be given to ceasing the activity unless the risk can be reduced to a level of high or less; regular monitoring and reported on to the relevant management/steering committee. Target resolution (ideally reduction to low level of risk) should be within 1 month.

{This is what I do!}

In the lab, we identify a risk, assess its likelihood and consequence, and then mitigate. And, we stand by that decision. We write it up in an SOP and our uniform response becomes a rule that every technologist adheres to without deviation. We are able to work with risk, confident of our safety, because we remove that subjective aspect of tolerance. Subjectivity is eliminated.

The real world doesn't work this way.

Outside the confines of the lab, our PPE, sharps containers, SOPs, annual training, and compliance lies a world teeming with risk that we struggle to navigate. Here it's everyone for themselves. Subjectivity rules.



The coronavirus pandemic is risky. The real risk of community spread is evident in fact, 10+ million infected in the US and the exponential upward trend of new cases.

Public Health and the scientific community agree that the risk is high for community spread. It is both likely to happen and will result in significant illness.

Dr. Anthony Fauci has made this statement: “I think the people in this country need to realistically do a risk-benefit assessment,” in a news interview. And in the next breath, “Every family is different. Everyone has a different level of risk that they want to tolerate,” Fauci said.

That’s the difference, right there. **Recognizing risk but then allowing subjectivity to dictate tolerance is not how risk assessment works.**

This week AAA (American Automobile Assc.) predicts that up to 50 Million people may be travelling for the Thanksgiving holiday. While not as high as normal, still a large number of people will push the limits of risk tolerance; and that lack of uniform response will result in exposures, infections, illness, and death. That, like the risk, is certain.

But! Let’s be thankful. I am, and here’s why. If I could tell you one thing that I’m thankful for, and by you I mean **you**, my appropriately distanced, PPE compliant, esteemed, and hoodwinked readers, it is this; I’m glad I work in and come from a laboratory perspective about risk that helps me and my family (and yours) prepare for, deal with, and adjust to the world we inhabit today.

I’m thankful that I have a laboratory perspective about risk that tells me to reject subjectivity and respond to threat with rigid discipline, consistency, and compliance. My health, yours, my family’s and yours deserve the same careful risk assessment that we utilize in the laboratory.

Have a great week, a wonderful Thanksgiving, and be safe,

Bryan

