

# METROLOGY FOR MEDICINE & SOCIETY

COVID-19 Crisis & The use of pipettes in diagnostic tests

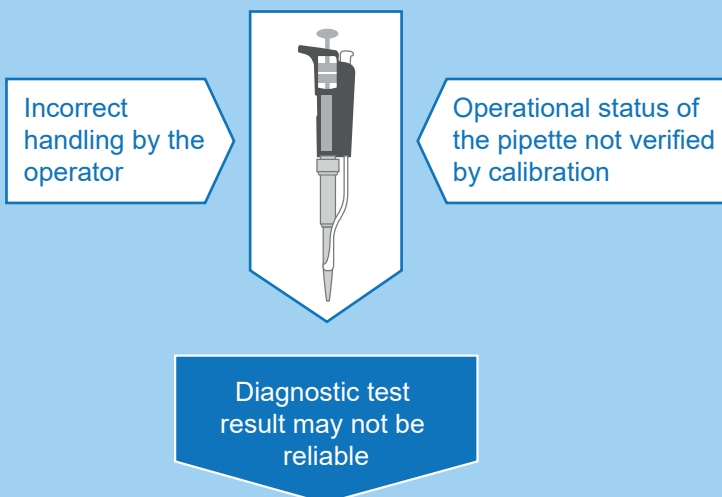
## THE ROLE OF METROLOGY

### Challenge

The unprecedented conditions public health institutions experience due to COVID-19 pandemic crisis have forced hospital laboratories to perform an enormous number of diagnostic tests daily using pipettes for the handling of the samples.

Correct measurement of sample volume depends on a combination of

- Pipette (Calibration) and
- Operator (Training - GLP)



### Tracing the Infection

*Probability of false positive vs. false negative status*

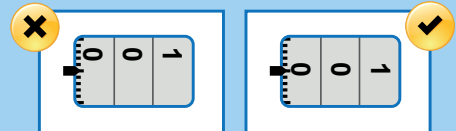
Hospital laboratories within COVID-19 crisis are forced to perform diagnostic tests under extraordinary, non-ideal conditions. European Metrology Institutes can assist them to identify errors in daily practice, raise awareness and develop best practices and methodologies to use in challenging conditions in order to ensure the reliability of the performed diagnostic tests.

### How can metrology help?

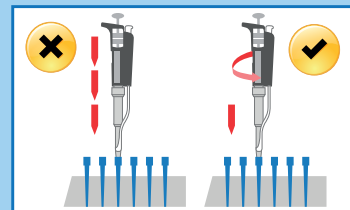
#### Recommendations

##### GOOD LABORATORY PRACTICE (GLP)

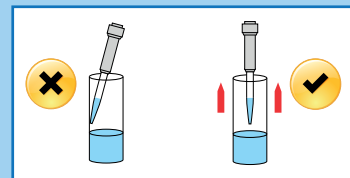
1. Set the volume correctly



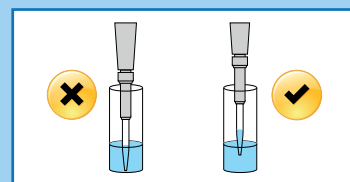
2. Attach the tip firmly



3. Pre-wet the tip
4. Work at temperature equilibrium
5. Examine the tip before and after dispensing the sample
6. Use standard mode pipetting
7. Pause consistently after aspiration
8. Pull the pipette straight out



9. Immerse the tip to proper depth



10. Use correct pipette tip
11. Use consistent plunger pressure and speed

##### PIPETTE CALIBRATION

1. Frequent calibration
2. Accuracy verification
3. Compliance with specifications
4. Be aware of wear due to excessive use