Pipetting, Ergonomics and You

Liquid Transfer

The world leader in serving science
An overview of pipetting technique, ergonomics, pipetting risk factors, methods for reducing risk of injury, and recommended solutions.
Ergonomics

• Ergonomics is the study of workplace equipment design or how to arrange and design devices, machines, or workspace so that people and things interact safely and most efficiently.

• Ergonomics is also called human factors analysis or human factors engineering.

• Ergonomics is “the science of fitting the job to the worker”
  – Occupational Safety and Health Administrations (OSHA), Federal and State Programs
Pipetting is a forceful activity
- Tip Attachment
- Tip Ejection
- Multiple Arm/Hand Movements
- Reaching/Stretching with thumb
- Plunger Operation
- Gripping the pipette

Pipetting is a repetitive activity
- More than 500 hours/pipetting are common
RSIs are preventable through the use of …

- Ergonomic Practices
- Ergonomic Tools

What does the Centers for Disease Control and Prevention recommend for Pipetting Ergonomics?
CDC Recommendation for Proper Posture

- Use shorter pipettes
- Use pipettes that fit comfortably in the user’s hand
- Keep samples and instruments within easy reach
- Use low profile waste receptacles for used tips
CDC Recommendations for Improved Efficiency

- Minimize repetitive tasks
- Use pipettes with index finger trigger mechanisms
- For tasks such as mixing or aliquotting, use an electronic pipette with mixing functions
- Use a multichannel pipette for large aliquotting tasks
- Take micro-brakes of 3-5 minutes, for every 20-30 minutes of pipetting
CDC Recommendations for Reducing Force

- Clean pipettes on a regularly scheduled basis
- Use pipette tips that fit correctly and are easy to eject
- Use minimal force when applying pipette tips
Questions

History of Innovation

✓ **First** variable volume pipette

✓ **First** multi-channel pipette

✓ **First** electronic trigger-action multi-channel pipette

✓ **First** 16 channel pipette

✓ **First** self sealing filter barrier tips

✓ **First** extended length pipette tips

✓ **First** interlocking technology system