PIPETTING

5 Steps to Obtaining Suitable Equipment

1 Make an assessment

- Consider the different usage contexts (workstation)
- Which users ?
- Types of pipettes, samples (viscosity, contaminants, radioactivity, etc.), containers ?

2 Target needs and identify equipment

Identify

- training needs (pipetting techniques and frequency, best practices in pipetting techniques)
- equipment to be maintained/serviced, repaired or calibrated

Replace

- define the criteria for equipment replacement
- consider (semi-)automated pipetting depending on processed volumes
- explore suppliers and other laboratories (exchange information, compare)
- consider the cost of consumables, maintenance and inspections
- use tips from the same brand as the pipette to ensure reliable dosing and better user comfort

Pool purchases where possible

Reuse old pipettes for other purposes (practical work)

3 Test in real conditions before purchasing

- Define comparison criteria : reliability, weight, comfort of adjustment, readability, ease of use, operating range suitable for the volumes to be sampled...
- Evaluate different pipette models, with several users, in various conditions, paying attention to handling, dexterity, repetitive movements and posture (for example under a biosafety cabinet)
- Share experiences among representative users

Involve key stakeholders throughout all stages

Users, supervisors, safety officers, unit directors,
risk prevention advisors, occupational physicians, suppliers, other laboratories

4 Validate selected equipment collectively

- Validate the purchase with the unit director or team leader
- Schedule regular calibration and maintenance

5 Getting to grips with the new equipment

not forgetting
organise the work

- **Size the series according to the task requirements (concentration, dexterity, etc.), the number of samples to process, and identify the non-compressible times linked to the protocol.**
- **Take user experience into account (novice, experienced)**
- **Take breaks and vary postures.**

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EXAMPLE OF A CENSUS TABLE

TEAM/ NUMBER OF PEOPLE	ACTIVITIES	PIPETTE TYPE	VOLUME / VOLUME RANGE	PIPETTE BRAND	TYPE OF TIP	STATUS / NOTE
	Elisa, PCR Cell culture Repeated distribution Serial dilution...	Single channel Multi-channel Manual Electronic Air displacement Positive displacement Accessories: pipette holder, battery Autoclavable	0,1 - 2,5µl 0,5 - 10µl P10/1-10µl P20/2-20 µl P1000/100-1000 µl	Gilson Eppendorf Lab system...	Filter: yes/no	Good condition Maintenance/repair/calibration Out of service Accuracy issue Not used because it hurts...

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