

## So, what can we say about “best practice” for handling lyophilized samples?

- Use a grade A glass volumetric pipette (certified/uncertified)?
- Calibrate pipette?
- Use “reagent grade” water?
- Check temperature of water? (DGKL 18-20°)
- Store lyophilized sample in fridge if not reconstituted immediately?
- Allow to come to room temperature before reconstituting?
- Tap vial before opening?
- Release stopper slowly and with care?
- Tap vial again before adding water?
- Add water with timing? ... weighing?
- Stand or put on roller mixer?
- For how long?
- Use freshly reconstituted material if possible?
- Mix again after standing in fridge?
- Mix again after thawing frozen material?
- Always same person?

# Current IEQAS Instructions

- Open outer cap; carefully lift rubber stopper.  
Avoid loss of dried material
- Accurately add distilled water using a calibrated pipette or by weighing
- Replace stopper; invert vial carefully 3 times, then let stand (or place on roller mixer) for 30 minutes.  
Do not shake. Invert manually 10 times.
- Freshly reconstituted material should ideally be used.
- Store reconstituted serum at 2- 5° C; use within 1 week.
- As required, remove a fraction of carefully mixed serum and allow it to come to room temperature before use.

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## Water quality?

Simple distillation or deionization not good enough

(should not call purified water “distilled” or “deionized”)

“Purified water” BP? — not a very high specification

“Analytical Grade” is fine

NCCLS type I: 10 M $\Omega$ -cm resistivity, 0.2  $\mu$ m filter, organics removed by activated charcoal

— *degrades on storage!*

Elga Medica system:

- prefilter, RO, deionization x2, UV, 0.05  $\mu$ m filtration
- up to 15 M $\Omega$ -cm, organics < 0.001 AU, pH “effectively neutral”, bacteria <1 CFU/ml

... if you haven't done so already,

**Write an SOP!**