



What Mistakes Occur Sometimes in Unsupervised Collections?

These are issues primarily related to patients performing unsupervised collections. With the RTube, unsupervised collections are almost always successful and secure. The RTube was designed for research patients to collect EBC in their own homes, completely unsupervised, and it has proven to be very effective. However, some people make mistakes. We have seen some doozies. Fortunately, none of them are dangerous. Here are some of the issues that have arisen.

1. Patient will turn the whole RTube system over, so that the tube is pointing downward. They do this so they can better see the television. Unfortunately, some sample is invariably lost on the floor, and some of the saliva trapping characteristics of the system are rendered useless in this manner. If your patients want to watch TV, they can instead readily turn the mouthpiece to a 45° angle and tip the RTube off to the side. This should solve that problem. Better yet: have them turn off the television and read a book.
2. When performing unsupervised collections, subjects need to cap the RTube collection chamber after completion of breathing. If two caps come with the RTube, then it is wise to cap the bottom of the RTube first, followed by the upper cap. This will assure that the minimal rise in pressure upon capping does not distort the valve. If one cap comes with the RTube (as may occur in model A003 and higher) only the upper end of the RTube (the end to which the red arrow points) needs to be capped. The key instruction is to assure that at least the upper end of the RTube is capped and that under no circumstances should the patient touch the inside of the caps while applying them to the RTube. We have seen patients hold the cap in their mouth while they put the cooling sleeve down. This is to be avoided. Duh..
3. Sometimes patients will remove the white mouthpiece and place a cap on the blue T-piece instead of the bottom of the RTube. Solution = demonstration of the appropriate high-tech capping technique. Top and bottom of the collection tube is just fine.
4. Sometimes a subject will turn the RTube upside down in the process of capping it and some of the EBC hits the floor (or their lap, or their coffee). First, we recommend that the RTube be kept relatively vertical, with the red arrow pointing upward (in the same direction that says "THIS WAY UP" on the RTube). Second, we recommend keeping the coffee in the pot until after the RTube has been capped and placed safely in the freezer.
5. We have seen patients stick their fingers down the RTube like a Chinese finger-trap. We discourage this. Strongly.
6. The RTube was designed to inherently minimize saliva entry into the device. In this regard, there is no direct pathway from the mouth to the condensation chamber, and saliva tends to fall toward the bottom inhalation valve instead. However, some people drool like a toddler. We don't ask why, but we do try to ask them to control their secretions by occasionally swallowing. Too much saliva in the system will lead to contamination of the sample. The optional 0.3 micron filter easily can be added between the blue mouthpiece/T-connector and the RTube condenser and completely stop salivary contamination. In studies of amylase contamination using the RTube, it is found to be rare, and then primarily only occurring in the older subjects. This amylase may arise from the mouth, but possibly could be coming from the lower airway itself, so confident conclusions that amylase always means salivary contamination can not be made. The drool issue occasionally occurs even in supervised collections.

Please contact us with any interesting tales of unusual collection failures. We like to keep track!