

**GUEST ARTICLE** by Ella, a technologist doing toxicology work in a major metropolitan hospital core laboratory.



“is a puzzlement”

When my boss asked me to try this new pipettor now-and-then for my bulk acid transfers I said sure. I was told that it was more precise and accurate for tiny volumes and biological samples like they do in gene sequencing. But about everything here needs to be automated now and I was just doing non-precision transfers of about 20 $\mu$ L of hydrochloric acid, for which precision and accuracy don't matter. So I couldn't imagine why my boss would want me to try this new reportedly high tech differential pipetting for that. But my boss has directed this important lab forever, and he's kind of famous, and there's always a good reason for anything he assigns to me even if it is not obvious at the beginning, so -- plus I am open-minded -- I was happy to try it.

Your thumb only moves downward, even when aspirating, and you just point to where you want the sample to go and it goes there. I am used to having to work my thumb up and down in regular pipetting, and when you have done that thousands of times there is a tendency to keep doing it, so this part took a little getting used to. I am also used to having to touch a tip carefully and drag it just right or make sure its underwater.



“Getting to know you”  
Revelation

So just having to point it from no particular height and having the sample go there was an instant delight. Once I got into the rhythm I found *it was very efficient and faster*. I found myself looking forward to using this pipettor because *it did it all in one swift motion and is very easy to use*. I felt a little awed that it could also be ultra high precision.

*I really liked it a lot* even though I was only using it for non-precision bulk transfers of hydrochloric acid. Imagine if my job was to try to transfer many samples every day. Or to try to accurately pipette a microliter or less for genetic typing so a type A++ genetic research genius boss could get more grant money -- and then I got hold of this differential pipettor!



Bliss

## Epilogue by Differential Pipetting

**How did this begin?** This was a casual little experiment to see how someone would react using our powerful Differential Pipettor for something that was very low tech where precision and accuracy didn't matter -- where a very approximate volume transfer was all that was needed and there should logically be no need or interest in our unit whatsoever. In other words, far, far away from an application where the unique capabilities of our invention would improve needed precision and accuracy and contamination-free transfer and all that -- where any intelligent marketing would direct it to sell it. This intermittent usage of our Differential Pipettor by Ella therefore began as described in the article. The pleasant surprise for us was that Ella really liked it for its ease, speed and great feel! We had some indications that our unit handled well and felt very good, but this seemed like a particularly ridiculous thing to try it with -- very rough transfers of 20  $\mu\text{L}$  of dilute hydrochloric acid where all that was needed was to make sure you had enough and hopefully didn't waste a whole lot over that?

**How was this article put together?** A couple of months after this completely unsupervised little intermittent-use experiment was over, Ella described her experience. We took what we thought was one photo with our iphone of her holding the pipettor she had used. However, when our media team transferred it out of the phone it turned out to be some multiframe or video that was taken by accident that played for 2 seconds. Ella's eye movements and expressions burst so visibly out of those 2 seconds that we slowed the playback by 10 - 50 times on our old Macintosh. That revealed that the trusty iphone had offered up a cornucopia of expressive eye movements and related expressions. But we settled for 3 frames that looked like they matched what Ella described and felt and interposed those. Too early to say a star is born or anything like that, of course.



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