



Why we use Passive drool collection versus absorbent methods

As we now know, saliva collection for analysis has become an invaluable tool offering many advantages over blood draw and other sampling methods because it is painless and non-invasive. It is important however to consider all possibilities when collecting the saliva sample so that it can achieve its full potential. The choice of collection tube is of the utmost importance at this time (1).



A. Salivette using synthetic swab



B. Plain tube for passive drool can be used with or without straw.

With passive drool, the saliva is allowed to pool at the bottom of the mouth and then eased into the collection device directly or via a straw. In most cases, this will give a trouble free sample of high quality and, therefore, good analysis results. With passive drool collection there is an unlimited analysis potential for multi analyte measurement. Banking of samples for future use either for retesting or emerging biomarkers will not be compromised with this method. For biomarkers that are dependent on flow rate calculation, it is easier to measure with passive drool.

The drawback of this method is, however, that the participant must be relied upon to assure the sample quality and volume. Therefore, it is important to give a well-illustrated demonstration beforehand. Also, the participant must be mentally and physically able to donate the sample unaided. As such, in some populations it is may be extremely difficult or impossible to collect saliva in this way.

Some studies show that collecting saliva with cotton swabs and other absorbent devices will affect the quantity of the target analytes (2,3 &4). Due to the different molecules that are secreted in varying volume from different salivary glands, there is also the danger that when using an absorbent device one will not be collecting a truly mixed sample. When collecting with an absorbent collection device, it is difficult to be absolutely sure if the participant has provided adequate sample volume (3).

A comparison table summarizing advantages of Passive drool vs. Absorbent method.

Passive Drool= (PD) versus Absorbant method =(AM)		
	PD	AM
Cost effective method	✓	
Quickly and easily demonstrated	✓	
Sample collected quickly and easily	✓	
Requires little manipulation	✓	
Can be collected directly into cryo vial for biobanking	✓	
May be used for all types of analyte	✓	
Absorbant material may affect analysis result		✓
Difficult to see how much saliva has been collected		✓
Risk of choking in some populations		✓
Not recommended for certain analytes		✓

Reference:

- (1) Groeschl, Michael. (2008) Current Status of Salivary Hormone Analysis Clinical Chemistry, Volume: 54 Issue: 11: 1759-1769 .
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- (4) Kozaki T, Hashiguchi N, Kaji Y, Yasukouchi A, Tochihara Y. (2009) Effects of saliva collection using cotton swab on cortisol enzyme immunoassay. Eur J Appl Physiol.107:743–746.



**CENTRE FOR STUDIES
ON HUMAN STRESS
(CSHS)**

7401 rue Hochelaga
Montréal, Qc.
H1N 3M5

nathalie.wan@crfs.rtss.qc.ca