

SCIENTIFIC BRIEF

UNDERSTANDING SALIVA VARIABILITY

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UNDERSTANDING SALIVA VARIABILITY

Why does saliva vary?

Saliva is produced by three types of glands located throughout the mouth that vary in the composition of saliva they produce. Saliva composition can also vary with factors such as flow rate, recent fluid intake, or exercise. However, through consistency in sample generation and measurement technique this variability can be reduced to provide salivary osmolality (SOSM) scores using the MX3 Hydration Testing System that are reflective of hydration status.

What level of SOSM variability is to be expected?

Some variation between consecutive SOSM measurements is expected. Studies^{1,2} indicate that changes smaller than approximately 20 mOsm may reflect normal sampling and measurement variability, whereas changes of ~20 mOsm or more are likely to represent a genuine change in hydration status (**Fig 1**).

How can SOSM variability be reduced?

To improve measurement consistency:

- wait at least 5 minutes after food or fluid intake prior to measurement; if significant debris is present within the mouth, rinse with water and wait 5 minutes
- swallow all existing saliva and fluid in the mouth and generate a fresh saliva sample by allowing saliva to collect at the front of the mouth;
- sample an adequate amount of saliva (tongue should be visibly wet) for measurement;
- avoid sampling bubbles and ensure adequate contact between the sample and test strip;
- consider collecting saliva into an MX3 Sample Tray when saliva is viscous, the mouth is dry or tongue sampling produces inconsistent results.

