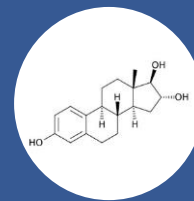


SALIVARY ESTRIOL QUICK START GUIDE



BIOLOGICAL CONSIDERATIONS

Estriol is a female sex steroid hormone largely associated with pregnancy and fetal development. Fetal adrenal DHEA-S is metabolized in the fetal liver to 16 α -hydroxy-DHEA-S, which is then converted to estriol in the placenta. By the second trimester, about 90% of the estriol produced is derived from this fetal adrenal DHEA-S. Production of estriol depends on an intact maternal-placental-fetal unit, and maternal salivary estriol levels have been used to monitor fetal status during pregnancy. Unbound estriol enters saliva from blood via intracellular mechanisms and salivary concentrations closely approximate unbound plasma concentrations. There is virtually no protein-bound estriol in saliva. Changes in levels of estriol and the other estrogens that occur due to menopause, pregnancy, and hormone replacement therapy have also been studied extensively for relationships to cancer susceptibility, its role in bone and lipid metabolism, and its function as a protective neurosteroid.

Biological Representation	Systemic
Serum-Saliva Correlation	0.87

SAMPLE TIMING AND DESIGN

Maternal circulating estriol levels rise progressively during pregnancy, reaching a peak in the third trimester. The physiological roles of estriol in non-pregnant women are not well understood and are under investigation, particularly in connection with aging and post-menopausal health. Estrogens are components of various medications, and the use of these substances can influence the levels measured in saliva. The medications may be delivered via gels, oral tablets, and inhalers. It is recommended to document the use of estrogen containing contraceptives and consider estimating saliva flow rate.

FREQUENTLY STUDIED WITH

Cortisol, Estradiol, Oxytocin, Estrone

TECHNICAL SUMMARY

Sample Collection Methods & Volumes	
Passive Drool	✓
SalivaBio Swabs	-
Optimum Collection Volume	175 μ L*

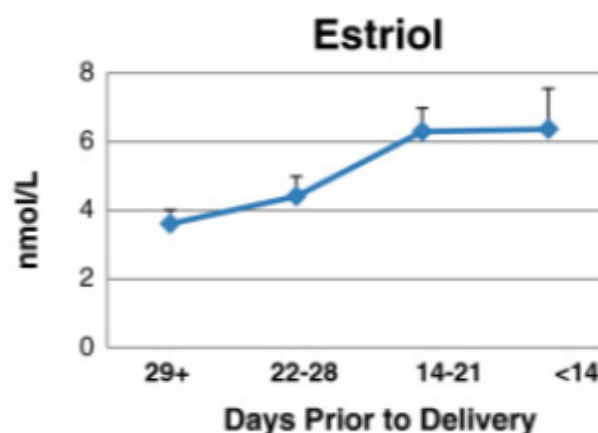
*Add 300 μ L to the total collection volume for all analytes of interest.

EXAMPLE DATA

(Hampson 2013) measured average salivary estriol levels in women ranging from 32-38 weeks of gestation. Estriol levels increase closer to parturition.

KEY RESOURCES

- Granger, DA, Taylor, MK. (2020). Salivary Bioscience: Foundations of Interdisciplinary Saliva Research and Applications. Springer. <https://springer.com/book/10.1007/978-3-030-35784-9>
- Hampson, E., Phillips, S. D., Soares, C. N., & Steiner, M. (2013). Steroid concentrations in antepartum and postpartum saliva: normative values in women and correlations with serum. *Biology of sex differences*, 4(1), 7.
- Vining, R. F., et al., (1983). Saliva estriol measurements: an alternative to the assay of serum unconjugated estriol in assessing fetoplacental function. *The Journal of clinical endocrinology and metabolism*, 56(3), 454-460.



Hampson 2013

