

Clinical and Technical Considerations in the Analysis of Gingival Crevicular Fluid

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Gingival Crevicular Fluid and researches

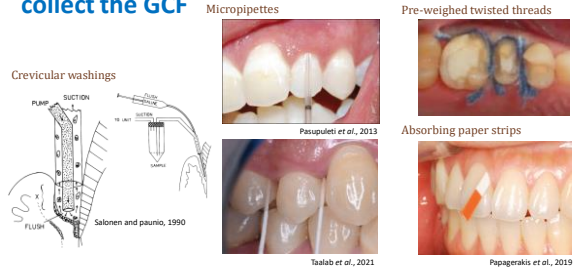
- Discovered in late 1950s
- Studies of GCF began in early 1960s
- Studies expanded during 1970s
- Aid of technology_ advance in analytical technique

Collection of gingival crevicular fluid is a noninvasive simple procedure

Site-specific information about the inflammatory status at any particular periodontal site

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Methods to collect the GCF



Collection of gingival crevicular fluid

- Periopapers strip (Oralflow Inc.)
 - Presterilized
 - Standard 1.2 ul



Dias et al., 2022

- Larger Periocol paper strips collecting up to 2.0 ul

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Method of measurements

- Staining: by staining with Ninhydrin to produce a purple color in the area where gingival fluid is accumulated
- Weighing the strips. Strip is weighed before and after collecting the GCF sample.
- An electronic method

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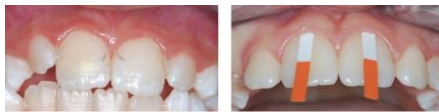
3. Use of periotron



Analytical Parameters that Require Consideration

- Timing of GCF collection in relation to other clinical parameters
- GCF volume is recorded or not
- GCF samples are stored and analyzed individually or pooled
- GCF samples stored dry or placed in buffer and then stored
- Temperature of storage at -80°C
- Shaking, vortexing, centrifuging, duration and temperature

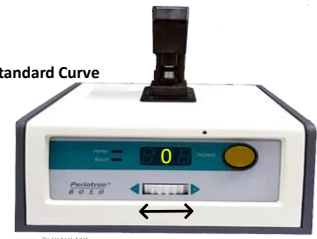
Collection of gingival crevicular fluid



- 1-2 mm
- 30 sec
- Samples visibly contaminated with blood are rejected
- Visible supragingival plaque should be removed

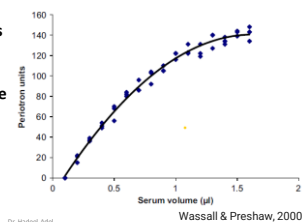
Quantification of Gingival Crevicular Fluid Volume

- Turn on
- Zero the Periotron
- Calibrate _____ Standard Curve

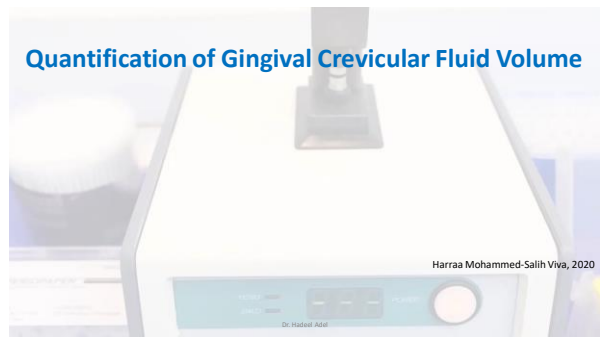


Quantification of Gingival Crevicular Fluid Volume

- 0.1–1.6 ul, at 0.1-ul increments
- Periotron Professional software (Oralflow Inc.) _____ 0.50, 0.75, 1.00 and 1.25 ul in triplicate



Quantification of Gingival Crevicular Fluid Volume



Instruments and Materials

