

Use of polyurethane minisponges to collect human tear fluid

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Purpose: To characterize a method of tear collection based on the use of amphiphilic polyurethane absorbing minisponges. **Methods:** Tear fluid was collected from 17 healthy volunteers. A preweighed polyurethane dry minisponge was laid on the margin of the lower eyelid. Once wet (5-10 minutes), the fluid was transferred to a preweighed Eppendorf tube after squeezing the sponge by centrifugation. The amount of fluid absorbed and fluid recovered were determined by reweighing the sponge and the tube after absorption and centrifugation steps, respectively. The fluid was qualitatively characterized by electrophoretic polypeptide profiling in Coomassie blue-stained SDS-polyacrylamide gels. **Results:** Per eye, 14.6 ± 5.3 μ L tear fluid was collected. That volume was about 90% of the fluid absorbed by polyurethane minisponges, almost doubling the fraction recovered from other more hydrophilic absorbing polymers. Major bands characterizing the electrophoretic profile of this fluid were those of 79, 6