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| DEWS | DRY EYE: DIAGNOSTIC TEST TEMPLATE | |
| RAPPORTEUR | Murat Dogru. | Date:Dec 9,2006 |
| TEST | Strip Meniscometry | |
| TO DIAGNOSE | Screening Test used to diagnose – aqueous tear deficiency | |
| VERSION of TEST | [V] 1 Only one version | Dogru et al. 2006 |
| DESCRIPTION | Test designed to quantify the volume of tears in the tear meniscus | |
| NATURE of STUDY | Prospective controlled trial | Dogru et al. 2006 |
| CONDUCT of TEST | The test uses a specially prepared, absorptive strip (see below). The Slit-lamp beam is set at a width of 0.05mm and its height at 5mm viewed under under x32 magnification. The tip of meniscometry strip is immersed in the lateral tear meniscus for 5 seconds without touching the lids or ocular surface. The length of the blue dye column in the central ditch of the strip is read after 5 seconds and is the strip meniscometry value for the tested eye. | |
| RESULTS of STUDY | Strip meniscometry correlates with tear quantity and stability, ocular surface staining scores and lipid layer interferometry grades. .Strip meniscometry was effective in evaluating the effect of punctal occlusion | |
| Web Video | Not available | |
| Materials: | Meniscometry strips are made of a mixture of rayon, acetate, nylon, nylon 66, nitrocellulose, vinyl, polypropylene, polysulfone and polyethersulfones. The strip contains a blue dye. | |
| Variations of technique | None | |
| Standardization | The test is performed in a standardized manner and is assumed to be influenced by ambient temperature and humidity. | |
| Diagnostic value | This version : [x] test useful for the diagnosis and quick screening of aqueous deficiency dry eye, and in evaluating the treatment effect (tear meniscus volume)by punctual plug occlusion | Dogru et al. 2006 |
| Repeatability | Intra-observer agreement. [100%] Inter-observer agreement. [100%] | |
| Sensitivity | (true positives) [86%] Using a test cut-off value is < 4mm | |
| Specificity | (100 – false positives) [96%] Using a test cut-off value is < 4mm | |
| Other Stats | Nil | |
| Levels of Evidence | AAO Level 1 | |
| Test problems | Currently, a yellow discoloration of the strip occurs within one month of storage. There is possible irritation and reflex tearing if the strip touches the ocular surface unintentionally | |
| Test solutions | The examiner should be careful not to touch the OS with the | |

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| | strip but just immerse the tip into the tear meniscus | |
| FORWARD LOOK | Currently, strip meniscometry is for experimental use and under development. Newer materials are being tested, to prevent yellow discoloration and to soften the strip material to eliminate the possibility of reflex tearing when the tip touches the ocular surface. | |
| Glossary | | |

Reference

Dogru M, Ishida K, Matsumoto Y, Goto E, Ishioka M, Kojima T, Goto T, Saeki M, Tsubota K. Strip meniscometry: a new and simple method of tear meniscus evaluation. Invest Ophthalmol Vis Sci. 2006 May;47(5):1895-901.