

DEWS	DRY EYE: DIAGNOSTIC TEST TEMPLATE	
RAPPORTEUR	Kazuo Tsubota, M.D.	Date 14/Dec/2004
TEST	Brush cytology technique	
TO DIAGNOSE	A variety of ocular surface diseases.	REFERENCES
VERSION of TEST	[1]	
DESCRIPTION	Brush cytology is the technique that collects conjunctival epithelial samples from the patient, clinically. This method is different from impression cytology in that brush cytology can obtain basal cells as well as superficial cells.	Tsubota 1990 (a); Tsubota 1990 (b); Tsubota, 1991; Fukagawa 1993; Fujihara 1997; Miyoshi 2001; Takano 2004.
CONDUCT of TEST	Brush cytology of the conjunctiva is moderately invasive, but it can provide a valuable snapshot of the surface of the eye to evaluate many conjunctival conditions.	
Video needed	Yes	
Materials:	<ul style="list-style-type: none"> • Small Brush (Teikokuzouki Pty. Ltd., Japan), • Hank's buffered solution, • Millipore filter (Millipore Corp. Bedford, MA) 	
Standardization	The strength of the pressure applied to the conjunctiva by brush should be moderate.	
Diagnostic value	This version is useful to evaluate: 1) squamous metaplasia, 2) detecting inflammatory cells, 3) expression of several surface markers on the ocular surface epithelium.	Tsubota 1990 (b)
Repeatability	Intra-observer agreement. [NA] Inter-observer agreement. [NA]	No study has been performed
Sensitivity	[NA]	
Specificity	[NA]	
Other Stats	[NA]	
Test problems	The procedure is slightly invasive to the patient, as the cells are detached from the ocular surface	
Test solutions	Use a very soft brush (do not use a rough brush).	
FORWARD LOOK	Since more than 100,000 cells are obtained using brush cytology, this is a very good technique to see molecular expression by each cell. Thus this technique, combined with flow cytometry can give us more detailed information about events at the ocular surface at the cellular level.	

References

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