

<b>DEWS</b>	<b>DRY EYE: DIAGNOSTIC TEST TEMPLATE</b>	
<b>RAPPORTEUR</b>	Tony Bron	12 <sup>th</sup> Nov 2004
<b>TEST</b>	<b>Non-Invasive Break-Up Time (NIBUT)</b>	
<b>TO DIAGNOSE</b>	Tear film stability	
<b>VERSION of TEST</b>	Version I Toposcope – also performed with: V2 keratometer Patel et al. 1985; Madden 1994 V3 Tearscope V3 Xeroscope Pflugfelder	Mengher et al. 1985 Mengher et al. 1986
<b>DESCRIPTION</b>	The specular image of a pattern projected onto the tear film, is examined. The time taken for the image to degrade, after the last blink, is the NIBUT.	
<b>CONDUCT of TEST</b>	1. The test is conducted in quiet room conditions with low air speed and low general illumination. 2. The patient receives instructions about the procedure. 3. The patient sits comfortably at the instrument and is encouraged to blink freely while fixing on a target, directly ahead. 4. The patient is asked to stop blinking until told to restart. 5. The time between the last complete blink and the first indication of pattern break-up is recorded with a stop-watch. 6. This is the NIBUT.	
<b>Web Video</b>	NA	
<b>Materials:</b>	<ul style="list-style-type: none"> <li>• Toposcope/keratometer/Tearscope/Xeroscope</li> <li>• Stopwatch</li> </ul>	
<b>Variations of technique</b>	V1. Mengher et al. 1986; V2. Patel et al. 1985; V3. Pflugfelder et al. 1998.	
<b>Standardization</b>	Time of day [√] Temperature [√] Humidity [√] Air speed [√] Illumination [√]. It is assumed that these factors influence standardisation. These factors should be noted.  <ul style="list-style-type: none"> <li>• Patient instruction prior to conduct of the test is essential.</li> </ul>	
<b>Diagnostic value</b>	In a normal population, the NIBUT was longer when measured with the keratometer (44.7 sec ± 16.3) than with the toposcope/xeroscope (35.6 sec ± 19.2) (p, 0.0001)	Madden et al. 1994
<b>Repeatability</b>	Intra-observer agreement. [ ] Inter-observer agreement. [ ]	
<b>Sensitivity</b>	<b>(true positives) [83%]</b>	Mengher et al. 1986
<b>Specificity</b>	<b>(100 – false positives) [85%]</b>	
<b>Other Stats</b>		
<b>Test problems</b>	Proper patient participation is critical.	
<b>Test solutions</b>	None	
<b>Glossary</b>	NIBUT = Non-Invasive Break-Up Time	

## References

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