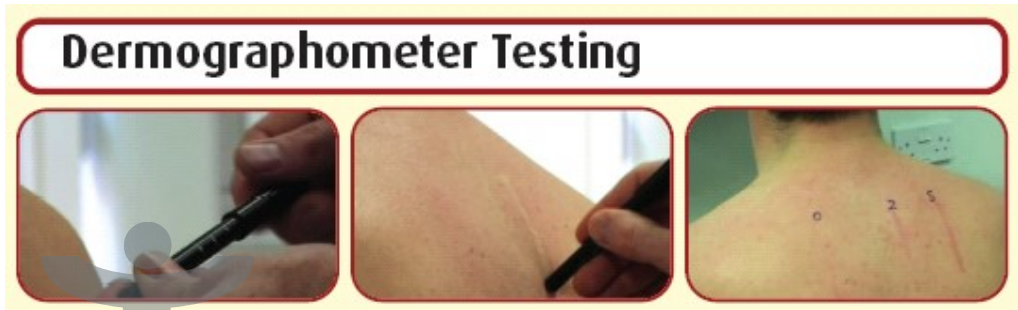


A CALIBRATED DERMOGRAPHOMETER FOR THE DIAGNOSIS OF SYMPTOMATIC DERMOGRAPHISM AND DELAYED PRESSURE URTICARIA



Dermographometer	Dermographometer calibration	Diagnostic testing for dermatographism																	
<p>A dermographometer is used to apply a well-defined and reproducible pressure to a subject's skin for the diagnosis of symptomatic dermatographism and delayed pressure urticaria.</p> <p>The dermographometer was first described by Bart and Ackerman in the USA (1966) and by James and Warin in the UK (1969).</p> <p>The dermographometer has a spring-loaded tip 0.9mm in diameter. The pressure on the spring can be varied by turning a screw at the top of the instrument. Its scale settings are 0 to 15.</p>	<p>Although this is a linear relationship between tip pressure and scale readings, dermographometers should be calibrated individually to ensure comparability.</p> <p>Table. Calibration of a specimen dermographometer</p> <table border="1" data-bbox="701 911 1123 1089"> <thead> <tr> <th rowspan="2">Settings</th> <th colspan="2">Pressure equivalent</th> </tr> <tr> <th>g/mm²</th> <th>Pascals</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>20</td> <td>2.0x10⁵</td> </tr> <tr> <td>2</td> <td>36</td> <td>3.6x10⁵</td> </tr> <tr> <td>5</td> <td>60</td> <td>5.97x10⁵</td> </tr> <tr> <td>10</td> <td>99</td> <td>9.7x10⁵</td> </tr> </tbody> </table>	Settings	Pressure equivalent		g/mm ²	Pascals	0	20	2.0x10 ⁵	2	36	3.6x10 ⁵	5	60	5.97x10 ⁵	10	99	9.7x10 ⁵	<p>Technique: Three parallel lines (10cm long) should be made with dermographometer settings equivalent to 20, 36 and 60g/mm² on upper back skin in patients off antihistamines. Weal width measurements should be after 10 minutes. The presence of a weal at pressure ≤ 36g/mm² done is diagnostic for symptomatic dermatographism. A positive test at 60g/mm² but not 36 g/mm² indicates simple dermatographism. This is found in some patients with other patterns of urticaria and about 5% of healthy subjects.</p> <p>Diagnostic testing for delayed pressure urticaria</p> <p>Technique: A dermographometer should be pressed over the blade of scapula at right angles to the back for 70 secs. At 100g/mm². The readings should be done between 2-6h and the following morning. A pressure-induced papule of at least 3 mm at 2-24 hours is considered as a positive test result.</p>
Settings	Pressure equivalent																		
	g/mm ²	Pascals																	
0	20	2.0x10 ⁵																	
2	36	3.6x10 ⁵																	
5	60	5.97x10 ⁵																	
10	99	9.7x10 ⁵																	

References:

1. Lawlor F. Cellular, molecular and therapeutic aspects of the physical urticarias. MD theses, 1990
2. Lawlor F., Kobza Black A. Delayed pressure urticaria. Immunol Allergy Clin N Am 24 (2004) 247-258.
3. Dice JP. Physical urticaria. Immunol Allergy Clin N Am 24 (2004) 225-246.
4. Black AK, Lawlor F, Greaves MW. Consensus meeting on the definition of physical urticarias and urticarial vasculitis. Clin Exp Dermatol. 1996 Nov;21(6):424-6.

*Created by Dr Elena Borzova and Dr Clive Grattan,
Dermatology Department, Norfolk & Norwich NHS Trust*