

Binocular Vision Normative Values

Phorias (Cover Test/Von Graeffe)			
Distance	1Δ exophoria ±2Δ		
Near	3Δ exophoria ±3Δ		
AC/A Ratio	4:1 ±2		
Smooth Vergences			
Base-Out (PFV) Distance	Blur: 9±4	Break: 19±8	Recover: 4±2
Base-In (NFV) Distance	Break: 7±3		Recover: ±2
Base-Out (PFV) Near	Blur: 17±5	Break: 21±6	Recover: 11±7
Base-In (NFV) Near	Blur: 13±4	Break: 21±4	Recover: 13±5
Step Vergences (Children aged 7-12)			
Base-Out (PFV) Near	Break: 23±8		Recover: 16±8
Base-In (NFV) Near	Break: 12±5		Recover: 7±4
Step Vergences (Adults)			
Base-Out (PFV) Distance	Break: 11±7		Recover: 7±2
Base-In (NFV) Distance	Break: 7±3		Recover: 4±2
Base-Out (PFV) Near	Break: 19±9		Recover: 14±7
Base-In (NFV) Near	Break: 13±6		Recover: 10±5
Vergence Facility			
12 Base-Out/3 Base-In	15 cpm ±3		
Near Point of Convergence			
Accommodative Target	Break: 2.5cm±2.5		Recover: 4.5cm±3
Penlight with Red/Green Glasses	Break: 2.5cm±4		Recover: 4.5cm±5

Morgan, M.W. (1944) 'The clinical aspects of accommodation and convergence', American Journal of Optometry and Physiological Optics, 21, pp. 301-313.[1][2][3][4][5]

Scheiman, Mitchell. 2013, Clinical Management of Binocular Vision: Heterophoric, Accommodative, and Eye Movement Disorders, 4th Edition, Lippincott Williams & Wilkins.