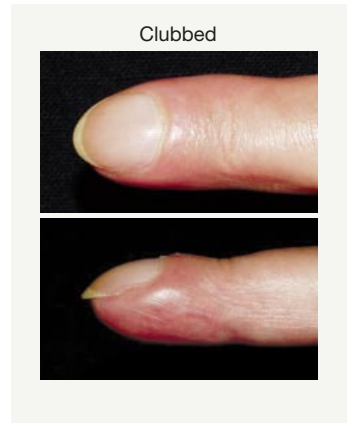


Clubbing^{1,2}

Narrative Section

HISTORICAL VIGNETTE - While convalescing from emergency aortic and mitral valve surgery due to endocarditis, South African cardiologist Leo Schamroth noticed a change in his swollen digits. A painless, lilac hue at the nail beds began to recede after surgery. “The ‘window’ [seen by holding his nail beds together] reappeared 2 months after the infection had been controlled,” he wrote in his landmark reflection on his own illness. However, it took many more months before the bulbous slope of the distal nail returned to its baseline shape. For decades since, “Schamroth Sign” of digital clubbing has been a marker for underlying disease, but a careful reading of the literature suggests that other bedside tests can indicate digital clubbing with both better inter-observer agreement and higher disease-specific reliability.



CONTEXT AND USEFULNESS - The presence of digital clubbing can help the aware clinician focus further work up. The “gold standard” diagnostic test to confirm clubbing, though, is an objective bedside measurement, not a lab test or radiograph. Clinicians should also recognize that clubbing has many causes (cardiac, hepatic, oncologic, pulmonary) and is not a part of the natural history of chronic lung disease. In these pulmonary patients, its presence predicts—but does not confirm—pathology. Most patients will not readily notice the change of their nails as the process of nail matrix hypertrophy is slow and painless.

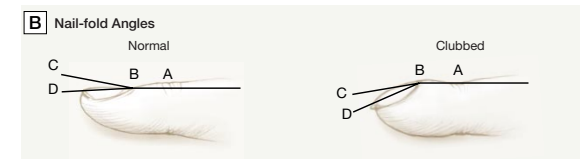
¹ Chi J *et. al.* “The Five Minute Moment.” *Am J Med.* 2016 Aug; 129 (8): 792-795.

² Myers K. “Does This Patient Have Clubbing.” *JAMA.* 2001 July; 286 (3): 341-347.

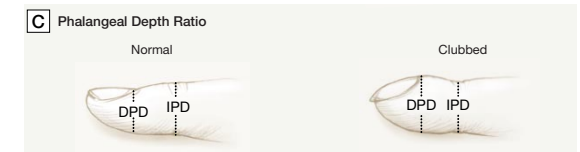
Physical Maneuver

Model Proper Technique - observation of the nail beds suggests clubbing with a “drumstick” or bulbous swelling of the distal phalanx. The nail bed often takes an erythematous hue. Nail angles can help bring objectivity to the assessment of the misshapen nail.

Observe the “**profile angle**” [ABC] at which the nail emerges from the nail bed (always more acute than a straight-line 180°) and the “**hyponychial angle**” [ABD] at which the nail bed and clipped-edge appear.



The most objective measure of clubbing, however, comes in assessing finger-tip depth (**phalangeal depth ratio**). The depth of the DIP joint [IPD] should always be greater than the depth of the DPD. Slide a tight ring on the finger and it should glide past the nail and stop at the knuckle. If it gets hung up on the nail first (if the ratio is reversed, or DPD:IPD >1:05), clubbing is present.



INTERPRETATION - Fingernails can present with many shapes and sizes. Careful examination of the nails of disease-free patients can often reassure them that clubbing is *not* present (i.e., if the depth ratio is <1.0). However, measures in patients with chronic lung disease confirming clubbing (>1.05 ratio) should also continue the quest for more sinister sources.

CAVEAT AND COMMON ERRORS - Remember: clubbing can rarely be hereditary (benign) or unilateral (indicative of a vascular source).