

CORRESPONDENCE

Digitised Allen's Test

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Sir,

Allen's test¹ has been in use to ascertain the collateral circulation of the hand through the ulnar artery. This has relevance in the context of the radial artery being harvested for CABG. The modified Allen's test² consists of asking the subject to raise his hand and clench the fist.

After compressing the radial and ulnar arteries firmly, and the subject opens his palm, one notes blanching of the palmar surface. Then the pressure on the ulnar artery is released; if collateral ulnar circulation is adequate, palmar flushing occurs to some extent. When the pressure on the radial artery is released, the palm returns to the resting complexion.

In view of the subjective nature of the test and difficulty among subjects with a dark complexion, we propose using the hand held pulse oximeter which is widely used. The oximeter is placed on the index finger of the subject, and the pulse wave form and the oscillating bar are noted along with the oxyhemoglobin saturation level (SPO₂). Both the radial and ulnar arteries are firmly compressed and one notes gradual reduction of the pulse wave till a horizontal line is observed; the SPO₂ will also be un-recordable momentarily. Sudden release of the pressures on the ulnar artery causes the pulse wave, oscillating bar and SPO₂ to return, albeit partially. Release of pressure on the radial artery will restore these parameters to the original state.

This method objectifies the results and obviates ambiguous results among dark skinned subjects.

References

1. Allen EV. Thromboangiitis obliterans: methods of diagnosis of chronic arterial lesions distal to the wrist with illustrative cases. *Amer J Med Sci* 1929; 178:237.
2. Jarvis MA, Jarvis CL, Jones PR, Spyt TJ. Reliability of Allen's test in selection of patients for radial artery harvest. *Ann Thor Surg* 2000; 70:1362-5.