

## Letter

# Fast-track microcirculation analysis

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See related research by De Backer *et al.*, <http://ccforum.com/content/11/5/R101>

The recently published report 'How to evaluate the microcirculation' [1] should be praised for standardizing analysis of human microcirculation data. This standardization will enable better comparison between studies.

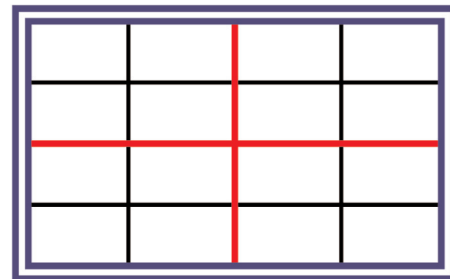
Having worked extensively with both orthogonal polarization spectral (OPS) and sidestream dark field (SDF) imaging and most analysis software, I feel the proposed analysis is extremely useful but is also equally time consuming. Despite advances in computer analysis, current practice is still predominantly manual. I therefore wish to make a comment that may greatly simplify the procedure.

The report suggests determining the microvascular flow index (MFI), the perfused vessel density (PVD) and the percentage of perfused vessels (PPV). For the MFI a grid is used dividing the screen into four quadrants, and the vessels are scored according to observed flow: 0 = none, 1 = intermittent, 2 = sluggish, 3 = continuous. For the PVD and the PPV, three equidistant horizontal and vertical lines are drawn and a different score is used: absent, intermittent, present (for details see [1]).

I propose using the same grid for the MFI, the PPV and the PVD. Dividing the MFI quadrants into four sections more effectively creates the PPV and PVD lines (see Figure 1). Each vessel is then scored according to the MFI criteria. The PPV and the PVD are calculated as usual. Vessels with MFI scores of 2 or 3 are classified as having flow present. Finally, the MFI is calculated as ordinary.

I used this method for a recent study [2]. Trzeciak and colleagues used a similar approach but with different scoring definitions [3]. Combining scores and the grid saves time. In addition, the approach potentially allows for distinction between sluggish and continuous flow for PVD and PPV determinations.

**Figure 1**



The same grid is used for MFI, PPV and PVD determinations. Only the red lines are used for MFI.

### Competing interests

The author declares that they have no competing interests.

### References

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MFI = microvascular flow index; PPV = percentage of perfused vessels; PVD = perfused vessel density.