Quantifying early diabetic retinopathy.

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A precise and accurate method of numerically quantifying diabetic retinopathy, on standardised retinal colour photographs, has been developed which allows small changes and trends to be monitored. Colour slides are projected onto a screen and features noted on an acetate sheet which provides a permanent record. Sector analysis showed microaneurysms and haemorrhages to occur most often at the temporal-to-macula area, exudates at the macula and cotton wool spots on the nasal side of the retina. Seventy percent of microaneurysms appeared in the previous year, irrespective of the severity of the retinopathy. In proportion to their usual relative prevalences, after normalisation of distribution, the various features can be combined to provide a single value, the Retinopathy Index. This provides an overall assessment of retinopathy which is suitable for comparing the progress of mild retinopathy in prospective studies.