The inclusion of optic disc assessment in diabetic retinopathy screening programmes can be an efficient way of detecting glaucoma in diabetic patients, according to studies presented at the 22nd Meeting of the European Association for the Study of Diabetes’ Eye Complications Study Group.

“Our findings indicate that the opportunistic screening of diabetic patients for glaucomatous discs is worthwhile and does not place an unmanageable burden on the glaucoma services,” said Maxwell Treacy MD, Mater Misericordiae University Hospital, Dublin, Ireland.

He presented results of a prospective study in which trained graders assessed the optic discs of 3,697 patients participating in a diabetic screening programme. He noted that the graders identified 111 patients’ optic discs as having features suggestive of glaucomatous damage, and of those, consultant ophthalmologists confirmed 91 as suspicious and referred the patients to a glaucoma clinic.

Moreover, of the 63 patients who subsequently attended the glaucoma clinic, 15 were diagnosed with glaucoma, 34 are being followed as glaucoma suspects, and 14 were diagnosed as not having glaucoma or any elevated risk for the disease and were discharged back to the diabetic screening programme with normal examination, he said.

Special training Dr Treacy noted that the graders in the diabetic retinopathy screening programme at the Mater Misericordiae Hospital in Dublin do not have medical qualifications, but have received training in identifying the features of diabetic retinopathy in retinal photographs. In 2010 they received further instruction from two consultant ophthalmologists on the identification of suspicious disc signs on retinal photographs. Those signs included cup/disc ratio greater than 0.6, abnormal cup configuration, asymmetry between cup/disc ratios greater than 0.2, visible lamina cribrosa, notches and nasal cupping, and abnormal neuroretinal rim. The graders also received instructions on detecting disc haemorrhages, retinal nerve fibre loss and peripapillary atrophy.

“Our findings indicate that the opportunistic screening of diabetic patients for glaucomatous discs is worthwhile and does not place an unmanageable burden on the glaucoma services” Maxwell Treacy MD

“This scoring system allowed graders to identify suspicious discs and make appropriate referrals. By alerting our graders to glaucomatous disc changes, detection of sight-threatening glaucoma can occur within a diabetic screening programme, Dr Treacy added.

The protocol for referring patients from diabetic retinopathy screening programmes to glaucoma clinics is one that may need to be revised as experience grows with such programmes, said Pat Hart MD, who heads the diabetic screening programme in Northern Ireland.

She noted that of 73 patients referred from the screening programme for suspect glaucomatous discs, 43 (58.9 per cent) were later confirmed as having glaucoma. Of those, only 39/43 (63 per cent) had a cup/disc ratio of 0.7 or more, but 91 per cent had cup/disc ratio 0.5 or greater and were referred according to protocol. A further four cases had a cup/disc ratio less than 0.5, two with a notch and disc asymmetry, and two with a notch.

“If the protocol for referral had been a cup/disc ratio of 0.7 or greater it would have excluded 37 per cent of those subsequently diagnosed, but if the protocol had been a cup/disc ratio of 0.7 or greater, or another feature, such as notch or disc asymmetry greater than 0.2, 100 per cent of glaucoma patients would have been referred,” Dr Hart said.