

to bias attendance in favour of women. However, they also clearly demonstrate that in order to obtain a reasonable coverage, definite appointment times should be included in invitation letters, although doing so incurs a cost to the practice of a greater proportion of patients failing to attend their appointment without prior notification and so leaving appointment times unfilled. One response to this problem may be to slightly over-book screening clinics.

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## Measurement of capillary cholesterol level in hyperlipidaemia

Sir,

The Reflotron (Boehringer) dry chemistry method of measuring capillary cholesterol level is being used more frequently in general practice. This method has been validated for screening large numbers of people by minimally trained staff.<sup>1-3</sup> We used this method to monitor the cholesterol levels of hypertensive patients with hyperlipidaemia who were attending an outpatient clinic in a trial of intensive dietary intervention. It was considered suitable as it would provide patients and staff with immediate feedback of current cholesterol values.

A capillary sample from the patient's finger taken using an automatic lancet and a venous sample from the antecubital vein taken by conventional venepuncture were obtained from 141 patients by two trained nurse practitioners. The venous blood samples were sent to the biochemistry laboratory for full lipoprotein analysis including total plasma cholesterol level. A total of 489 pairs of Reflotron-

tested capillary samples and laboratory-tested venous samples were obtained over a 15 month period.

Assessment of the two nurses taking samples from different patients revealed that there was no statistically significant difference between the results obtained by them for capillary cholesterol or venous cholesterol level, or in the difference between the two tests. The Reflotron-tested capillary values were found to be higher than the laboratory tested venous values by a mean of 0.3 mmol l<sup>-1</sup>, standard deviation (SD) 0.8 mmol l<sup>-1</sup>.

Over the course of the study, efforts were made to improve the accuracy and precision of the Reflotron results. Staff technique was observed and reviewed on a number of occasions by the company representative. The Reflotron machine was changed after seven months and we participated in an external quality assessment scheme for the Reflotron.

The overall correlation coefficient (*r*) for the Reflotron capillary cholesterol versus the laboratory venous cholesterol was 0.725. The two Reflotron machines used yielded different values, with the first giving *r*=0.809 and the second *r*=0.798. The first machine had a non-significant bias of -0.1 mmol l<sup>-1</sup> (SD 0.6), and the second a statistically significant bias of +0.6 mmol l<sup>-1</sup> (SD 0.7, *P*<0.001). Using a difference of 1 mmol l<sup>-1</sup> between visits to represent a change, 25% of patients at visit 2, 33% of patients at visit 3 and 36% of patients at visit 5 would have been given different information on their progress depending upon whether Reflotron or laboratory results were used to provide feedback. In the majority of cases of discrepant findings results had been obtained from the same Reflotron machine on both occasions.

The Reflotron models used in our study were not sufficiently accurate or consistent to assess changes in a patient's cholesterol levels over time. The results of the study therefore suggest that measuring capillary cholesterol by the Reflotron method is not useful for monitoring long-term responses to drugs and diet in hyperlipidaemic patients.

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## Cryotherapy ineffective for ingrowing toenails

Sir,

Ingrowing toenails are a common painful condition. A paper in the *British Medical Journal* in 1985 reported that liquid nitrogen cryospray was a quick, simple and cheap outpatient procedure comparable with other nail sparing techniques.<sup>1</sup> In this study 44 patients received treatment, 20 with a good result. However, in 24 patients the condition recurred within one year; six of these cases responded to a second treatment. Cryotherapy was given for 30 seconds after the ice field had formed and Dermovate-NN<sup>®</sup> (Glaxo) and aspirin were used to treat pain and swelling.

As a survey in Devon and Cornwall had shown that 58 out of 265 practices had access to liquid nitrogen,<sup>2</sup> I attempted to replicate this study in primary care. Twenty patients were admitted to the study at the Lakeside health centre in London. An 8600 Cryo-Jet<sup>®</sup> (Cryo-Technology) cryospray device was used but neither aspirin nor Dermovate-NN<sup>®</sup> were added to the treatment regimen. The first three patients found the treatment unacceptably painful and thus local anaesthetic ring blocks were used for the remaining 17 patients. This allowed very adequate freezing of the soft tissues. Despite this, the condition recurred in 15 out of the 20 patients. In some of these cases nail spicule removal had been carried out. The technique was abandoned and has been totally superseded in this practice by phenolic cauterization of the nail bed.<sup>3</sup> This technique is now regarded as the best method for treating ingrowing toenails although nail bed ablation is part of the procedure.

I believe that cryotherapy spray for ingrowing toenails is painful, ineffective and wasteful and should not be recommended.

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