CHOOSING AND IMPLEMENTING NEW TEST SYSTEMS

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An overview of possible DNA testing platforms will be presented with specific emphasis placed on the use of PowerPlex® 16 run on the SpectruMedix 9610 capillary electrophoresis instrument. The effect of front-end automation and the 9610 on laboratory efficiency will be discussed.

In addition to the information regarding the use of a 96 capillary electrophoresis instrument, the implementation of single nucleotide polymorphisms (SNPs) in parentage testing will also be discussed. GeneScreen's parent company, Orchid Biosciences, has developed a high-throughput platform for testing SNPs known as the UHT (ultra high throughput). The methodology, known as SNP-IT, involves single base, primer extension of nucleic acid polymorphisms followed by either indirect or direct detection of fluorescently labeled nucleic acid chain terminators. Based on several characteristics, a large panel of selected SNPs has been constructed to examine its usefulness as a potential paternity testing panel. This platform will allow for rapid, high volume testing that, when fully implemented, should provide a completely automated and cost efficient parentage test.