H59   Age Progression: How Accurate Is It?

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This presentation will examine the accuracy of age progressed photographs.

The creation of the National Center for Missing and Exploited Children (NCMEC) in 1984, coupled with the National Child Search Assistance Act of 1990, greatly improved the recovery rate of abducted children throughout the last decade. In the U.S., approximately 725,000 missing children reports were filed with the National Crime Information Center (NCIC) during 2001, averaging more than two thousand reports per day. The great majority of these cases were resolved with the child returned unharmed. The NCMEC reports that currently over 90% of missing and endangered children are recovered, an increase of nearly 30% over the last decade. One in six of these successful recoveries is credited to the practice of immediately distributing photographs of the missing child to law enforcement officials, the media, and the public; demonstrating the importance of visual photographic images in the discovery of missing children.

As a recovery tool the use of photographs is undeniably successful. In situations where the child has been missing for at least two years, NCMEC oversees computer manipulation of a photograph as a means to demonstrate the present age-progressed appearance of the missing child. The standard technique of age progression/enhancement involves computer-graphically stretching a photograph to reflect the increase in overall size of the face. This image is then enhanced with facial features drawn from siblings and parents at the corresponding age. Although the NCMEC reports that such computer images have resolved approximately 275 abduction cases, this approach and specific techniques remain untested with reference to actual craniofacial growth patterns in children.

The purpose of this presentation is to assess the accuracy of standard age progression techniques, and to identify new methods that may further improve this approach and aid in the resolution of more cases. To test the accuracy of age progression images, three adult females were assessed, using a chronological series of school photographs (kindergarten through twelfth grade). For each subject, the school photographs were standardized for size, and measurements incorporating standard anthropometric landmarks were taken on each photo. These were then analyzed to assess the craniofacial development of each subject with respect to age. Additionally, for each participant a photograph was randomly selected and subjected to an age progression. The age enhanced images were then compared to the photograph of the subject at that age. Without a doubt, the practice of age progressing photographs of missing children has proven successful. However, this present examination indicates that this technique can be enhanced, potentially serving to further improve the recognition and recovery rate of missing children.

Age Progression, Craniofacial Growth, Computer Imaging